2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Henrico, Richmond, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS01A02

SEGMENT SIZE: 10.84 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Fall Line (Mayos Bridge)

RIVER MILE: 110.30

LATITUDE: 37.52810 **LONGTITUDE:** -77.43500

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River

RIVER MILE: 77.84

LATITUDE: 37.32400 **LONGTITUDE:** -77.27920

Estuarine James River from the fall line at Mayos Bridge downstream to the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Assessed not supporting of the Swimmable use support goal based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts.

In 1998 EPA identified "nutrients as a pollutant causing impairment of water quality standards (aquatic life use attainment) for the James River estuary sections already listed on Part 1 of the state's list of waters". Therefore, this section is considered not supporting of the Aquatic Life Use.

IMPAIRMENT SOURCE NPS - Urban, CSO

The source of the impairment in this section of the river is believed to be urban runoff from the tributary drainage basin and from combined sewer overflow events from the City of Richmond's combined sewer system.

The City is currently undertaking CSO abatement efforts. It is recommended that the ongoing CSO special study be continued to gauge the effects of CSO abatement efforts on water quality in this segment.

EPA believes nutrient overenrichment is impairing the aquatic life use in the James River. DEQ's addition of turbidity as an impairment cause is based on the best scientific information available since the EPA overlisted this segment in 1999 for nonattainment of aquatic life use due to nutrients.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Henrico, Prince George, Charles City, Cities of Richmond, Hopewell

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS01A02

SEGMENT SIZE: 28.15 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Fall line

RIVER MILE: 110.30

LATITUDE: 37.52810 **LONGTITUDE:** -77.43500

DOWNSTREAM LIMIT:

DESCRIPTION: Queens Creek

RIVER MILE: 66.58

LATITUDE: 37.31890 **LONGTITUDE:** -77.22170

Estuarine James River from the fall line to approximately Powell Creek, including the tidal Appomattox River and Bailey Bay.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Partially Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs

Considered partially supporting of the Fish Consumption Use because of PCBs in multiple fish species at:
2-JMS098.64
2-JMS086.22
2-BLY000.55
2-JMS074.44
2-APP004.12
2-APP001.53
2-JMS066.88

IMPAIRMENT SOURCE Unknown

The source of the PCBs is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Henrico

STREAM NAME: Falling Creek Reservoir

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01L_FAC01A98

SEGMENT SIZE: 110 - Acres

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Extent of backwater

RIVER MILE: 6.53

LATITUDE: 37.45750 **LONGTITUDE:** -77.49480

DOWNSTREAM LIMIT:

DESCRIPTION: Dam

RIVER MILE: 3.76

LATITUDE: 37.46190 **LONGTITUDE:** -77.46630

Falling Creek Reservoir

CLEAN WATER ACT GOAL AND USE SUPPORT:
Drinking Water Supply - Not Supporting

IMPAIRMENT CAUSE: Nutrients

Historical problems resulting from nutrients and organic loadings

IMPAIRMENT SOURCE Unknown

Runoff from watershed

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Richmond, City of

STREAM NAME: Goode Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01R_GOD01A00

SEGMENT SIZE: 1.23 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Broad Rock Creek

RIVER MILE: 1.23

LATITUDE: 37.48710 **LONGTITUDE:** -77.43780

DOWNSTREAM LIMIT:

DESCRIPTION: James River

RIVER MILE: 0.00

LATITUDE: 37.49870 **LONGTITUDE:** -77.42410

Goode Creek from the confluence with Broad Rock Creek to its mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Goode Creek was assessed based on sampling at GOD000.07. The violation rate for fecal coliform was 12/21 and the violation rate for phosphorous was 3/21.

IMPAIRMENT SOURCE Unknown

The source of the impairment is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: Almond Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01R_ALM01A98

SEGMENT SIZE: 2.26 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 3.30

LATITUDE: 37.48670 **LONGTITUDE:** -77.38310

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.50330 **LONGTITUDE:** -77.41830

Almond Creek from its headwaters to its mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Almond Creek was assessed partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 5/27 recorded at the Route 5 bridge (2-ALM000.42).

IMPAIRMENT SOURCE Unknown, NPS - Urban

The source of the fecal coliform violations is considered unknown, but is suspected to be caused by urban runoff and combined sewer overflow discharges.

Targeted monitoring is necessary to further delineate the extent of the impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Richmond, City of

STREAM NAME: Falling Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01R_FAC01A00

SEGMENT SIZE: 3.81 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Falling Creek Reservoir dam

RIVER MILE: 3.81

LATITUDE: 37.46190 **LONGTITUDE:** -77.46630

DOWNSTREAM LIMIT:

DESCRIPTION: James River

RIVER MILE: 0.00

LATITUDE: 37.43650 **LONGTITUDE:** -77.42800

Falling Creek from the Falling Creek Reservoir dam to its confluence with the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Falling Creek was assessed partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 8/47 recorded at 2-FAC000.85.

IMPAIRMENT SOURCE Unknown

The source of the fecal contamination is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: Fourmile Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G02R_FOM01A02

SEGMENT SIZE: 30.99 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 8.69

LATITUDE: 37.48600 **LONGTITUDE:** -77.34410

DOWNSTREAM LIMIT:

DESCRIPTION: James River

RIVER MILE: 0.00

LATITUDE: 37.40740 **LONGTITUDE:** -77.30380

Fourmile Creek watershed from its headwaters to the mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: pH, Fecal Coliform

Fourmile Creek and its tributaries were assessed not supporting of the Aquatic Life use support goal based on pH standard violations recorded at stations 2-FOM003.60, 2-FOM001.85 (1995), 2-DLK001.19, 2-XPZ000.02 (1994), 2-FOM006.87, and 2-BAY000.42.

The segment was assessed as partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 6/27 at the Route 5 bridge (2-FOM003.60).

The segment was extended from the 1998 listing due to pH violations at the special study stations in the watershed.

IMPAIRMENT SOURCE Unknown

The source of the pH violations is considered unknown, but is suspected to be related to runoff from pine forests in the headwaters of the watershed.

Targeted monitoring is necessary to further delineate the extent of the impairment and to characterize its causes and sources.

The source of the fecal coliform violations is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Charles City, Henrico, New Kent, Cities of Richmond, Hopewell, Colonial Heights

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS01A00

SEGMENT SIZE: 43.81 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Fall line

RIVER MILE: 110.30

LATITUDE: 37.52810 **LONGTITUDE:** -77.43500

DOWNSTREAM LIMIT:

DESCRIPTION: Chickahominy River

RIVER MILE: 48.40

LATITUDE: 37.22490 **LONGTITUDE:** -76.88900

The mainstem tidal James River from the Fall line to the Chickahominy River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Nutrients, Chlorophyll_a, EPA Overlisting (General Standards)

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal. Nutrient screening criteria violations have continued to be reported in the area between the Appomattox and approximately river mile 69 (stations listed below). However, during the year 2002 cycle, there were acceptable monitoring results elsewhere in the river.

Chlorophyll A:
4/18 at 2-JMS069.08
7/18 at 2-JMS075.04
3/3 at MA97-0678
3/3 at MA97-0679

During the 1998 cycle, EPA extended the segment upstream to the fall line at downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

DEQ's addition of turbidity as an impairment cause is based on the best scientific information available since the EPA overlisted this segment in 1999 for nonattainment of aquatic life use due to nutrients.

IMPAIRMENT SOURCE Unknown

The nutrient enrichment in the original segment is attributed to urban runoff and storm sewers. Upstream

municipal and industrial point sources may be contributing sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hopewell, City of

STREAM NAME: Bailey Bay, Bailey Creek (tidal), Cattail Creek (tida

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G03E_BLY01A98

SEGMENT SIZE: 0.29 - Sq. Mi.

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Fall line

RIVER MILE: 1.00

LATITUDE: 37.27720 **LONGTITUDE:** -77.27990

DOWNSTREAM LIMIT:

DESCRIPTION: James River confluence

RIVER MILE: 0.00

LATITUDE: 37.29650 **LONGTITUDE:** -77.25040

Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Swimmable Use - Not Supporting, Fish Tissue - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Fecal Coliform, Fish Tissue - PCBs, Sediment - PCBs, Chlordane, DDE, DDT, Total DDT Metabolites

The segment was initially listed on the 1994 cycle 303(d) list because of excessive violations of the dissolved oxygen, fecal coliform, and ammonia standards.

For the 2002 303(d) list, the segment continued to be assessed as not supporting of the Swimmable Use goal because of a violation rate of 20/56. Although the dissolved oxygen violation rate showed only partial impairment of the Aquatic Life use goal (12/59), the segment has had continuing problems with PCBs, PCTs and pesticides as well as phosphorus violations and algal blooms. Based on the continuing problems with this segment, best professional judgement was used to continue the assessment of not supporting of the Aquatic Life use goal.

Ammonia was removed from the list in the 1998 cycle because of the results of a mixing zone study. However, a violation of the acute ammonia standard was documented at the Hopewell Region Monitoring and Assessment Project station BC-3. This station is within the chronic mixing zone area, not the allocated impact zone. Therefore the segment should be considered fully supporting but threatened because of the acute ammonia standard violation.

IMPAIRMENT SOURCE Unknown, PS - Municipal/Industrial, NPS - Urban

Major point sources affecting water quality in this segment include the Hopewell Regional wastewater treatment facility (WWTF) and Honeywell's Hopewell Plant.

A special study was initiated in 1997 to delineate the area affected by PCBs and PCBs in sediments and to determine a cause of the impairment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince George, Charles City, Hopewell, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G03E_JMS01A00

SEGMENT SIZE: 5.31 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Appomattox River/Shand Creek

RIVER MILE: 77.84

LATITUDE: 37.32400 **LONGTITUDE:** -77.27920

DOWNSTREAM LIMIT:

DESCRIPTION: Powell Creek

RIVER MILE: 70.00

LATITUDE: **LONGTITUDE:**

The mainstem tidal James River from the confluence of the Appomattox River downstream to river mile 74.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The segment was considered partially supporting of the Swimmable Use based on a fecal coliform violation rate of 7/59 at 2-JMS074.44.

The segment was considered threatened of the Aquatic Life Use based on ER-M exceedances of DDT and dibenz(a,h)anthracene at 2-JMS074.44 in 1995.

IMPAIRMENT SOURCE NPS - Urban

The fecal coliform bacteria is attributed to urban runoff and storm sewers. Upstream municipal and industrial point sources may also be contributing sources. However, this has not been verified.

The source of the sediment contamination is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hopewell, City of

STREAM NAME: Bailey Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G03R_BLY01A98

SEGMENT SIZE: 6.54 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 8.80

LATITUDE: 37.22080 **LONGTITUDE:** -77.34310

DOWNSTREAM LIMIT:

DESCRIPTION: Fall line

RIVER MILE: 1.00

LATITUDE: 37.27720 **LONGTITUDE:** -77.27990

Segment begins at the headwaters of Bailey Creek and extends downstream to the fall line.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Partially Supporting, Aquatic Life Use - Partially Supporting, Swimming Use - Partially Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs, aldrin, heptachlor epoxide, Dissolved Oxygen, Fecal Coliform

Bailey Creek was initially included on the 303(d) list in 1994 based on water quality monitoring performed at the Route 10 bridge (2-BLY000.65) and historical water quality problems in Bailey Bay. The causes of impairment are excessive DO and fecal coliform standard violations recorded at 2-BLY000.65. A special study was performed in 1997 and 1998 to delineate the area of impact. The tidal station 2-BLY000.65 continues to show impairment, however the riverine stations in Bailey Creek did not show impairment for conventional parameters in the 2000 cycle. However, the non-tidal portion of Bailey Creek is assessed in the 2002 cycle as partially supporting of the Fish Consumption Use goal because of exceedances of the human health screening levels for PCBs, aldrin, and heptachlor epoxide in fish studies at station 2-BLY005.72 in .

IMPAIRMENT SOURCE Unknown

The source of the impairment in Bailey Creek is currently unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince George

STREAM NAME: Wards Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G04R_WRD01A00

SEGMENT SIZE: 11.79 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 11.79

LATITUDE: 37.15770 **LONGTITUDE:** -77.10440

DOWNSTREAM LIMIT:

DESCRIPTION: James River

RIVER MILE: 0.00

LATITUDE: 37.26760 **LONGTITUDE:** -77.05750

Wards Creek from the headwaters to the mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Wards Creek was assessed partially supporting of the Swimmable use support goal based on water quality monitoring performed at monitoring station 2-WRD005.40. The fecal coliform standard violation rate was 4/24.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform standard violations is considered unknown. Targeted monitoring may be necessary to delineate the impacted segments.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hanover

STREAM NAME: Chickahominy River, UT - Unnamed Tributary

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G05R_XDD01A98

SEGMENT SIZE: 1.49 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Tyson Plant discharge

RIVER MILE: 1.49

LATITUDE: 37.69840 **LONGTITUDE:** -77.55020

DOWNSTREAM LIMIT:

DESCRIPTION: Chickahominy River confluence

RIVER MILE: 0.00

LATITUDE: 37.69010 **LONGTITUDE:** -77.53520

Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

Biological monitoring of the receiving stream identified a moderately impaired benthic community downstream of the Tyson Plant (VPDES Permit No. VA0004031) discharge when compared to the benthic community immediately upstream of the discharge. This resulted in this segment being assessed as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 1994 305(b) report. Continued monitoring resulted in a similar assessment for the 1996 and 1998 reports.

IMPAIRMENT SOURCE Unknown

The source of the impairment is unverified and is considered unknown.

Biological monitoring reports reviewed for the 1998 assessment indicate that the source of the impairment may be either the Tyson Plant or nonpoint source run-off from the Tyson Plant parking lot.

Additional monitoring downstream of the Tyson Plant is necessary to further characterize the cause and source of the impairment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: Upham Brook Watershed

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G05R_UPM01A02

SEGMENT SIZE: 48.04 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 11.13

LATITUDE: 37.59720 **LONGTITUDE:** -77.53850

DOWNSTREAM LIMIT:

DESCRIPTION: Chickahominy River confluence

RIVER MILE: 0.00

LATITUDE: 37.60810 **LONGTITUDE:** -77.40550

Segment begins at the headwaters of Upham Brook and extends downstream to the confluence with the Chickahominy River, including all tributaries.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The segment was assessed not supporting of the Swimming Use support goal based on a fecal coliform violation rate of 23/59 at DEQ's Ambient Monitoring Station 2-UPM003.53, located at the Brook Road (Rt. 1) bridge over Upham Brook, as well as excessive fecal coliform violation rates at the Richmond Regional PDC special study stations.

The segment has been extended since the 1998 listing to include the entire watershed.

IMPAIRMENT SOURCE NPS - Urban

The impairment in Upham Brook is attributed to urban nonpoint source runoff and other nonpoint sources in the watershed.

Targeted monitoring is necessary to further delineate the extent of impairment and to better characterize its causes and sources. A special study to monitor fecal coliform bacteria and other parameters in this watershed was initiated in 1996.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: North Run, Upham Brook

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G05R_NTR01A00

SEGMENT SIZE: 11.01 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters of North Run

RIVER MILE:

LATITUDE: 37.67930 **LONGTITUDE:** -77.52280

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth of Upham Brook at the Chickahominy River

RIVER MILE: 0.00

LATITUDE: 37.60810 **LONGTITUDE:** -77.40550

North Run from its headwaters to the mouth at Upham Brook and Upham Brook downstream of North Run.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen

The segment was assessed partially supporting of the Aquatic Life use support goal based on dissolved oxygen violation rates of 9/50 at UHB-6, 10/50 at UHB-8, 7/50 at UHB-10, and 4/23 at UHB-12

IMPAIRMENT SOURCE Unknown

The source of the violations is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hanover, Henrico

STREAM NAME: Chickahominy River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G06R_CHK01A98

SEGMENT SIZE: 10.3 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Route 360 bridge

RIVER MILE: 62.57

LATITUDE: 37.59530 **LONGTITUDE:** -77.38250

DOWNSTREAM LIMIT:

DESCRIPTION: Route 156 bridge

RIVER MILE: 55.04

LATITUDE: 37.55190 **LONGTITUDE:** -77.27140

Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, pH, Fecal Coliform

Assessed not supporting of the Aquatic Life use goal based on dissolved oxygen and pH violations at the Route 360 bridge (2-CHK062.57) and at the Route 156 bridge (2-CHK055.04).

Assessed partially supporting of the Swimmable use goal based on a fecal coliform violation rate of 5/39 at 2-CHK062.57.

IMPAIRMENT SOURCE Unknown

The DO and pH violations are attributed to natural conditions in the watershed, but may be exacerbated by nonpoint source runoff. The source of the fecal coliform standard violations is considered unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize the causes and sources.

Targeted monitoring and wetland delineation is recommended to identify the limits of the segment affected by natural conditions. Such segments should be reclassified as wetlands where appropriate.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: White Oak Swamp

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G06R_WOS01A98

SEGMENT SIZE: 6.51 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: White Oak Swamp Creek

RIVER MILE: 6.70

LATITUDE: 37.48450 **LONGTITUDE:** -77.36890

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.49310 **LONGTITUDE:** -77.18120

White Oak Swamp from White Oak Swamp Creek downstream to its mouth at the Chickahominy River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting, Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: pH, Fecal Coliform

White Oak Swamp was assessed partially supporting of the Aquatic Life use support goal based on a pH standard violation rate of 20/94 recorded at the Route 156 bridge (2-WOS002.69).

The segment was assessed partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 12/53 recorded at 2-WOS002.69.

IMPAIRMENT SOURCE Unknown

The source of the pH and fecal coliform standard violations is considered unknown.

Continued monitoring is recommended to increase the data set and make a confident assessment. Targeted monitoring may be necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: Canal Swamp

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G06R_CNS01A02

SEGMENT SIZE: 2.94 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 2.94

LATITUDE: 37.49260 **LONGTITUDE:** -77.24390

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.46750 **LONGTITUDE:** -77.21810

Canal Swamp from its headwaters to its mouth at White Oak Swamp.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: pH

Canal Swamp is assessed as not supporting of the Aquatic Life Use based on a pH standard violation rate of 3/12 at USGS station 02042454.

IMPAIRMENT SOURCE Unknown

The sources of the pH violations is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Charles City, New Kent

STREAM NAME: Chickahominy Lake

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G07L_CHK01A00

SEGMENT SIZE: 1500 - Acres

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Extent of Backwater

RIVER MILE:

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Dam

RIVER MILE: 24.00

LATITUDE: 37.40640 **LONGTITUDE:** -76.92860

Chickahominy Lake

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Clean Lakes, Dissolved Oxygen (Bottom), Chlorophyll_a

Chickahominy Lake was included on EPA's 1998 list of "Waters Identified to Virginia for Listing Consideration During Development of Next List." No parameter of concern was listed.

Low dissolved oxygen in the lake's bottom waters cause the lake to be listed as not supporting the aquatic life use because of stratification. Bottom violations occurred at both station 2-CHK026.94 and 2-CHK024.07.

The lake is currently considered to be fully supporting but threatened of the aquatic life use because it is a designated Nutrient Enriched Water. Please refer to fact sheet VAP-G01E-07 for additional information. The designation was confirmed with a chlorophyll a violation at both stations

IMPAIRMENT SOURCE EPA Listing, Stratification, Unknown

The dissolved oxygen violations are attributed to stratification in the deeper areas of the lake.

The source of the nutrients is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Charles City

STREAM NAME: Collins Run

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G07R_CNR01A00

SEGMENT SIZE: 4.36 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 4.35

LATITUDE: 37.40070 **LONGTITUDE:** -77.09160

DOWNSTREAM LIMIT:

DESCRIPTION: River mile 0.99

RIVER MILE: 0.99

LATITUDE: 37.41780 **LONGTITUDE:** -77.03390

Collins Run from its headwaters to approximately river mile 0.99.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting, Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: pH, Fecal Coliform

The segment was assessed not supporting of the Swimmable and Aquatic Life Uses because of fecal coliform and pH violations at two locations.

FC 3/7 at 2-CNR001.16;
FC 2/7 at 2-CNR001.54.

pH 2/7 at 2-CNR001.16;
pH 2/8 at 2-CNR001.54.

These stations are part of a confined animal feeding operation special study.

IMPAIRMENT SOURCE Unknown

The source of the fecal and pH impairments is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Charles City, James City

STREAM NAME: Chickahominy River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G08E_CHK01A00

SEGMENT SIZE: 1.31 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Walkers Dam

RIVER MILE: 24.00

LATITUDE: 37.40640 **LONGTITUDE:** -76.93830

DOWNSTREAM LIMIT:

DESCRIPTION: Diascund Creek

RIVER MILE: 15.91

LATITUDE: 37.37920 **LONGTITUDE:** -76.90360

The segment begins at Walkers Dam and extends downstream to the confluence with Diascund Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: pH

The Chickahominy River was included on EPA's list of "Waters Identified to Virginia for Listing Consideration During Development of the Next List." pH was listed as the parameter of concern. During the 2002 cycle, the segment was assessed as partially supporting the aquatic life use because of a pH violation rate of 9/59 at 2-CHK023.64.

IMPAIRMENT SOURCE Unknown

The source of the impairment in this segment is currently considered unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Charles City

STREAM NAME: Morris Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G08R_MOC01A98

SEGMENT SIZE: 7.72 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 13.70

LATITUDE: 37.35670 **LONGTITUDE:** -77.01820

DOWNSTREAM LIMIT:

DESCRIPTION: Tidal Limit

RIVER MILE: 6.00

LATITUDE: 37.31940 **LONGTITUDE:** -76.93850

Morris Creek from its headwaters downstream to the tidal limit at river mile 5.97.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, pH, Fecal Coliform, Nutrients - Phosphorus

Morris Creek was assessed not supporting of the Aquatic Life use support (ALUS) goal based on water quality monitoring performed at the Route 623 bridge (2-MOC005.97). Relative to the ALUS assessment, there were 15 violations of the DO standard, and 14 violations of the pH standard, recorded in 27 samples collected. The segment was assessed partially supporting of the Swimmable use support goal based on a fecal coliform violation rate of 3/27 recorded at 2-MOC005.97. Additionally, the 2002 305(b) criteria for phosphorous was exceeded 3 times in 27 samples.

IMPAIRMENT SOURCE Unknown

The source of the impairment in this stream segment is currently considered unknown.

Continued monitoring is recommended to increase the data set and make a confident assessment. Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: New Kent

STREAM NAME: Diascund Reservoir

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G09L_DSC01A00

SEGMENT SIZE: 1700 - Acres

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Extent of backwater

RIVER MILE:

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Dam

RIVER MILE: 5.85

LATITUDE: 37.43000 **LONGTITUDE:** -76.90000

Diascund Reservoir

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, pH, Chlorophyll_a

Dissolved oxygen violations in bottom waters:
1/1 at 2-DSC007.54;
3/3 at 2-DSC006.46;
3/3 at 2-DSC005.85.

pH violations in surface layer:
2/3 at 2-DSC007.54;
2/3 at 2-DSC006.46;
2/4 at 2-DSC005.85.

Chlorophyll A:
1/1 at 2-DSC007.54;
1/1 at 2-DSC006.46;
1/1 at 2-DSC005.85.

IMPAIRMENT SOURCE Stratification, Unknown

The DO violations are attributed to stratification in the deep lake waters. The source of the nutrient and pH violations is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: New Kent

STREAM NAME: Beaverdam Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G09R_BDM01A98

SEGMENT SIZE: 4.06 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 4.20

LATITUDE: 37.50320 **LONGTITUDE:** -76.93210

DOWNSTREAM LIMIT:

DESCRIPTION: Diascund Reservoir

RIVER MILE: 0.00

LATITUDE: 37.46370 **LONGTITUDE:** -76.90050

All of Beaverdam Creek tributary to Diascund Reservoir.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Phosphorus

Beaverdam Creek was assessed not supporting of the Aquatic Life use because of a dissolved oxygen standard violation rate of 7/26 at the Route 632 bridge (2-BDM004.12).

In addition, 5 phosphorus screening value violations were recorded in 26 samples collected at 2-BDM004.12

IMPAIRMENT SOURCE Unknown

The source of the violations in this segment is considered unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: New Kent

STREAM NAME: Diascund Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G09R_DSC01A00

SEGMENT SIZE: 6.89 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 16.93

LATITUDE: 37.52230 **LONGTITUDE:** -77.00670

DOWNSTREAM LIMIT:

DESCRIPTION: Diascund Reservoir

RIVER MILE: 10.13

LATITUDE: 37.45590 **LONGTITUDE:** -76.94440

All of Diascund Creek from its headwaters to the Diascund Reservoir.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting, Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform, Dissolved Oxygen

Diascund Creek was assessed partially supporting of the Swimmable Use based on a fecal coliform violation rate of 3/20 at the Route 628 bridge (2-DSC012.67).

The segment was considered partially supporting of the Aquatic Life Use goal based on dissolved oxygen violations:
DO 5/16 at the Route 628 bridge during sampling by the USGS at station 02042726 and DO 1/20 at the Route 628 bridge during DEQ sampling.

The segment was added to the 1998 303(d) by EPA. pH was identified as the pollutant of concern. The pH violation rate at both station 2-DSC012.67 (1/20) and USGS station 02042726 (0/33) was acceptable. pH should be removed as an impairing pollutant.

IMPAIRMENT SOURCE Unknown

The source of the impairment is considered unknown.

Continued monitoring is necessary to increase the data set and make a confident assessment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: James City

STREAM NAME: Mill Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10E_MIC01A00

SEGMENT SIZE: 0.08 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: End of tidal influence.

RIVER MILE: 5.00

LATITUDE: 37.23160 **LONGTITUDE:** -76.74480

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with James River at The Thoroughfare.

RIVER MILE: 0.00

LATITUDE: 37.21480 **LONGTITUDE:** -76.74490

Segment begins at end of tidal influence and extends to the confluence with James R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at DEQ's ambient water quality monitoring station on Mill Creek (2-MIC000.03) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report.

The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria.

IMPAIRMENT SOURCE Unknown

The Mill Creek monitoring station is located at the Colonial National Historical Parkway bridge over the creek, in James City County. The watershed potentially receives inputs from wetlands areas, upstream residential areas, and storm water runoff associated with the surrounding area. This watershed is ranked high priority for potential NPS pollution by DCR. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: James City

STREAM NAME: Powhatan Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10E_POW01A00

SEGMENT SIZE: 0.26 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Route 31 bridge

RIVER MILE: 3.38

LATITUDE: 37.23333 **LONGTITUDE:** -76.76667

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Sandy Bay

RIVER MILE: 0.00

LATITUDE: 37.21667 **LONGTITUDE:** -76.76667

Begins at the Route 31 Bridge crossing Powhatan Creek extends to confluence with Sandy Bay.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at DEQ's ambient water quality monitoring station on Powhatan Creek (2-POW000.60) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report.

The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria.

IMPAIRMENT SOURCE Unknown

The Powhatan Creek monitoring station is located at the Colonial National Historical Parkway bridge over the creek, in James City County. The watershed potentially receives inputs from marinas, residential sewage treatment systems, wetlands areas, and storm water runoff associated with the surrounding residential area. This watershed is ranked high priority for potential NPS pollution by DCR. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Surry

STREAM NAME: James River (mainstem)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10E_JMS01A00 t
bru VAT-G15E_SBE01C

SEGMENT SIZE: 128.33 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: All estuarine mainstem waters from start of G10E (Surry Co./Charles City Co. boundary junction).

RIVER MILE: 53.5

LATITUDE: 37.22330 **LONGTITUDE:** -76.88390

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at downstream terminus of mainstem segment G15E (line across mouth of James R. at Fort Wool)).

RIVER MILE: 0.00

LATITUDE: 37.15380 **LONGTITUDE:** -76.64190

All estuarine mainstem waters from start of G10E (Surry Co./Charles City Co. line) to end of G11E.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Nutrients, EPA Overlisting (General Standards)

EPA 1998 303d OVERLISTING is the basis to assess this segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the nutrient designation is unknown.

DEQ's addition of turbidity as an impairment cause is based on the best scientific information available since the EPA overlisted this segment in 1999 for nonattainment of aquatic life use due to nutrients.

IMPAIRMENT SOURCE Unknown

EPA OVERLISTING on 1998 303d. The source of the reduced benthic diversity exhibited in the BIBI rating is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: James City

STREAM NAME: Powhatan Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10R_POW01A00

SEGMENT SIZE: 3.1 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the confluence with Long Hill Swamp.

RIVER MILE: 3.10

LATITUDE: 37.31100 **LONGTITUDE:** -76.76590

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the estuarine/riverine transition @ Rt 613.

RIVER MILE: 0.00

LATITUDE: 37.26030 **LONGTITUDE:** -76.78370

Segment extends from estuarine/riverine transition to confluence with Long Hill Swamp.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

Quarterly biological monitoring at station 2-POW006.77 (located at State Route 613) indicated the stream's benthic community is moderately impaired. As a result, DEQ's General Standard (VR680-21-01.2) is not met for the protection of benthic aquatic life and this segment is assessed as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The specific cause of the impairment is currently considered unknown.

IMPAIRMENT SOURCE Unknown

The source of the impairment is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Newport News, City of

STREAM NAME: Warwick River (Upper)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_WWK01A00

SEGMENT SIZE: 0.21 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at end of tidal waters.

RIVER MILE: 10.88

LATITUDE: 37.17210 **LONGTITUDE:** -76.56470

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the confluence with Lukas Creek.

RIVER MILE: 3.48

LATITUDE: 37.11420 **LONGTITUDE:** -76.56530

Segment begins at end of tidal waters downstream to confluence with Lukas Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria was recorded (2-WWK003.98) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. The monitoring station is effected by the ebb and flood tidal cycles associated with estuarine systems.

The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria.

IMPAIRMENT SOURCE Unknown

The Warwick River monitoring station (2-WWK003.98) is located at the end of Rt 173 (Denbigh Blvd.) in the City of Newport News. The land use in the watershed is primarily residential. The watershed potentially receives inputs from wetlands areas, residential sewage treatment systems, and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated Fecal Coliform bacteria concentration is currently unknown.

Additional monitoring is necessary.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight

STREAM NAME: Pagan River (Upper)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_PGN03A00

SEGMENT SIZE: 0.75 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at end of tidal waters, 0.5 mi. downstream of canal Run.

RIVER MILE: 9.50

LATITUDE: 37.01667 **LONGTITUDE:** -76.66667

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends adjacent to intersection Rt 258 & Rt 10 southside Town of Smithfield

RIVER MILE: 5.02

LATITUDE: 36.96667 **LONGTITUDE:** -76.61667

Begins at end of tidal waters downstream to RM 5.03 (junction Rt 258 & 10 southside Smithfield).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting, Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform, Dissolved Oxygen

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at four out of ten monitoring stations on the Pagan River (2-PGN008.42, 2-PGN007.44, 2-PGN006.65, and 2-PGN005.46) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Sufficient violations of Virginia's water quality standard for Dissolved Oxygen were recorded at the above monitoring stations and low benthic diversity (stations for BIBI 05J05 & 05J07) is the basis to assess this segment as partially supporting and threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. These stations indicating standard violations are upstream of the past discharge from the now off-line Smithfield & Gwaltney Foods WWTPs (VA0059005). The facility was connected to central sewerage and ceased its discharge to the Pagan River July 1997. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. The cause of low benthic diversity is unknown.

IMPAIRMENT SOURCE Unknown

The major historical source of Fecal Coliform bacteria into the Pagan River is believed to have been caused by the discharge of effluent from the Smithfield Foods WWTP in violation of VPDES permitted Fecal Coliform effluent limitations (outfall 001). The facility connected to central sewerage and ceased its discharge to the Pagan River July 1997. The watershed potentially receives inputs from residential sewage treatment systems, wetlands areas, and storm water runoff associated with the surrounding residential /agricultural area. This watershed is ranked high priority for potential NPS pollution by DCR. The specific source of the enteric

bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Newport News, City of

STREAM NAME: Deep Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_DEP01A00

SEGMENT SIZE: 0.11 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the Warwick Yacht Club.

RIVER MILE: 0.76

LATITUDE: 37.08333 **LONGTITUDE:** -76.52272

DOWNSTREAM LIMIT:

DESCRIPTION: Segment extends to the confluence with the Warwick River.

RIVER MILE: 0.00

LATITUDE: 37.08139 **LONGTITUDE:** -76.52597

Segment begins at the Warwick Yacht Club and extends downstream to the confluence with the Warwick R

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at the monitoring station on Deep Creek (2-DEP000.26) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Sufficient exceedances of sediment screening values is the basis to assess this segmnet as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. The cause of the elevated sediment values for Zn, Cu, & PCBs is unknown.

IMPAIRMENT SOURCE Unknown

The Deep Creek monitoring station (2-DEP000.26) is located in the City of Newport News. The land use in the watershed is primarily residential. The watershed potentially receives inputs from wetlands areas, residential sewage treatment systems, and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated toxic metals concentration is currently unknown.

Additional monitoring is necessary.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight

STREAM NAME: Pagan River (Middle)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_PGN02A00

SEGMENT SIZE: 0.3 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at Rt 258 & 10 junction southside Smithfield.

RIVER MILE: 5.02

LATITUDE: 37.01667 **LONGTITUDE:** -76.66667

DOWNSTREAM LIMIT:

DESCRIPTION: Downstream of Town of Smithfield at Red Point.

RIVER MILE: 3.00

LATITUDE: 36.96667 **LONGTITUDE:** -76.61667

Segment begins at Rt 258 & 10 junction southside Smithfield downstream to Red Point.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Violations of the standard for FC bacteria two stations on the Pagan River (2-PGN003.57, 2-PGN004.57) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Benthic data indicating low benthic diversity (05J05 & 05J07) is the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Stations indicating standard violations are downstream of the past discharges from the now off-line Smithfield & Gwaltney Foods WWTP (VA0059005). The cause of the FC Bacteria standard violation is the presence of enteric bacteria. Cause of the benthic impairment is unknown.

IMPAIRMENT SOURCE Unknown

The major historical source of Fecal Coliform bacteria into the Pagan River is believed to have been caused by the discharge of effluent from the Smithfield Foods WWTP in violation of VPDES permitted effluent limitations (outfall 001). The facility connected to central sewerage and ceased its discharge to the Pagan River July 1997. The watershed potentially receives inputs from residential sewage treatment systems, wetlands areas, and storm water runoff associated with the surrounding residential /agricultural area. This watershed is ranked high priority for potential NPS pollution by DCR. The specific source of the FC bacteria is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight, Newport News, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_JMS01H00

SEGMENT SIZE: 0.5 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: One-half mile upstream of station

RIVER MILE: 17.51

LATITUDE: 37.02170 **LONGTITUDE:** -76.53370

DOWNSTREAM LIMIT:

DESCRIPTION: One-half mile downstream station

RIVER MILE: 16.51

LATITUDE: 37.01650 **LONGTITUDE:** -76.52660

Begins 0.5 mile upstream of monitoring station and extends 0.5 mile downstream.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Fish Consumption Use - Partially Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs & PAHs

Sufficient exceedance of fish tissue screening value for PCBs & PAHs at monitoring station (2-JMS017.01) to assess this segment as partially supporting of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report.

The cause of the elevated fish tissue levels of PCBs & PAHs are unknown.

IMPAIRMENT SOURCE Unknown

The James River monitoring station for fish tissue (2-JMS017.01) is located in the Mulberry Island area on the border between Isle of Wight County and City of Newport News. The land use in the watershed is mixed agricultural, forested, and light residential. The watershed potentially receives inputs from storm water runoff associated with the surrounding forested / agricultural / residential area. The specific source of the elevated toxic organic compounds concentration is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Suffolk, City of

STREAM NAME: Nansemond River (Upper)

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G13E_NAN01A00

SEGMENT SIZE: 0.32 - Sq. Mi.

INITIAL LISTING: 1994 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Lake Meade Dam

RIVER MILE: 19.80

LATITUDE: 36.74640 **LONGTITUDE:** -76.58900

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Shingle Creek

RIVER MILE: 18.60

LATITUDE: 36.74360 **LONGTITUDE:** -76.57440

Segment begins at the Lake Meade Dam and extends downstream to the confluence of the Nansemond River

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting, Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform, Dissloved Oxygen

Violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at a station on the Nansemond R. (02-NAN019.14) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. Violations of Virginia's water quality standard for Dissolved Oxygen were recorded at the above station to assess segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the low D.O. is unknown. Low benthic diversity (stations for BIBI 05J05 & 05J07) is the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the low benthic diversity is unknown.

IMPAIRMENT SOURCE Unknown, Unknown

The Nansemond River monitoring station is located at the Route 460 Bridge over the Nansemond River in the City of Suffolk. The Nansemond River BIBI monitoring stations are randomly located within the Nansemond River, in the City of Suffolk. The watershed receives inputs from storm water runoff associated with the surrounding residential /urban area. The specific source of the bacteria and D.O. standard violations is currently unknown. The source of the low benthic diversity is unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Suffolk, City of

STREAM NAME: Shingle Creek

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G13E_SGL01A00

SEGMENT SIZE: 0.12 - Sq. Mi.

INITIAL LISTING: 1994 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters of Shingle Creek

RIVER MILE: 1.90

LATITUDE: 36.73280 **LONGTITUDE:** -76.55530

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Nansemond River

RIVER MILE: 0.00

LATITUDE: 36.74370 **LONGTITUDE:** -76.57350

Segment begins at the headwaters of Shingle Cr. extends to confluence with Nansemond R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting, Aquatic Life Use - Partially Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform, Dissolved Oxygen, pH

Violations of standard for FC Bacteria recorded at station on Shingle Creek (2-SGL001.00, 2-SGL001.50) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Violation of standards for pH and dissolved oxygen recorded at above two stations to assess this segment as not supporting and partially supporting, respectively, of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Cause of the FC Bacteria standard violation is the presence of enteric bacteria. Cause of the D.O. and pH standard violations may be due to naturally occurring conditions from waters flowing from the dismal swamp area.

IMPAIRMENT SOURCE Unknown

The Shingle Creek monitoring station is located at the Route 642 (Wilroy Road) Bridge over Shingle Creek in the City of Suffolk. The watershed potentially receives inputs from residential sewage treatment systems and storm water runoff associated with the surrounding residential /urban area. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown. Connection with canals in the dismal swamp area is suspected as the potential source of low D.O and pH measurements.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Elizabeth River & All branches (mainstems)

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_ELI01C00 &
All except Lafayette

SEGMENT SIZE: 23.3 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at headwaters (of all branches).

RIVER MILE: 19.20

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at downstream terminus of Elizabeth River, confluence with Hampton Roads Harbor.

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

Segment begins at headwaters (of all branches) and extends to the mouth of the Elizabeth R.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Nutrients, EPA Overlisting (General Standards), Dissolved Oxygen

EPA 1998 303d OVERLISTING is the basis to assess this segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report..

The cause of the nutrient designation is unknown.

DEQ's addition of turbidity as an impairment cause is based on the best scientific information available since the EPA overlisted this segment in 1999 for nonattainment of aquatic life use due to nutrients.

IMPAIRMENT SOURCE Unknown

EPA OVERLISTING on 1998 303d

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01D00

SEGMENT SIZE: 0.15 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at confluence of Jones Cr. with Southern Branch.

RIVER MILE: 2.59

LATITUDE: 36.80700 **LONGTITUDE:** -76.28980

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at Norfolk & Portsmouth Beltline RR trestle crossing the Southern Branch.

RIVER MILE: 2.14

LATITUDE: 36.81140 **LONGTITUDE:** -76.29010

Segment begins at confluence of Jones Cr. downstream to Norfolk & Portsmouth Beltline RR trestle.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at DEQ's ambient water quality monitoring station on the Southern Branch (2-SBE002.30) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report.

The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria.

IMPAIRMENT SOURCE Unknown

The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated Fecal Coliform bacteria concentrations is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01B00

SEGMENT SIZE: 0.5 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment extends 0.25 miles upstream near VA Power facility.

RIVER MILE: 7.00

LATITUDE: 36.76500 **LONGTITUDE:** -76.30000

DOWNSTREAM LIMIT:

DESCRIPTION: Segment extends 0.25 miles downstream near VA Power facility.

RIVER MILE: 6.0

LATITUDE: 36.76500 **LONGTITUDE:** -76.30000

Segment extends 0.25 miles upstream and downstream near VA Power facility.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

Benthic BIBI fixed station surveys @ SBE5 are the basis to assess this segment as not-supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the lower benthic diversity designation is unknown.

IMPAIRMENT SOURCE Unknown

The subject Southern Branch fixed BIBI station (SBE2) is located near the Deep Creek confluence. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the low benthic diversity is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01G00

SEGMENT SIZE: 0.5 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins near Norfolk Naval Shipyard.

RIVER MILE: 1.00

LATITUDE: 36.81250 **LONGTITUDE:** -76.29083

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at mouth.

RIVER MILE: 0.00

LATITUDE: 36.81250 **LONGTITUDE:** -76.29083

Segment begins near Norfolk Naval Shipyard and extends downstream to mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

Benthic BIBI fixed station surveys @ SBE2 are the basis to assess this segment as not-supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the lower benthic diversity designation is unknown.

IMPAIRMENT SOURCE Unknown

The subject Southern Branch fixed BIBI station (SBE2) is located near the Norfolk Naval Shipyard in Portsmouth. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the low benthic diversity is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Deep Cr. Trib to Southern Branch Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_DEC01A00

SEGMENT SIZE: 0.5 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins one-half mile upstream of monitoring station @ RM 1.04.

RIVER MILE: 1.04

LATITUDE: 36.75140 **LONGTITUDE:** -76.33280

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the mouth, confluence with Southern Br. Elizabeth R.

RIVER MILE: 0.00

LATITUDE: 36.75710 **LONGTITUDE:** -76.29860

Segment begins one-half mile upstream of monitoring station and extends to mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Partially Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs

Exceedance of fish tissue screening value for PCBs in seven fish species collected in 1998 & 2000 at station (2-DEC000.54) to assess this segment as partially supporting of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report. Exceedance of screening values for sediment PCBs & Hg at the above monitoring station is reason to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Cause of the elevated fish tissue levels of PCBs is unknown, but may be related to sediment PCB contamination at the same site. Cause of the sediment PCB & Hg contamination is unknown.

IMPAIRMENT SOURCE Unknown

The Deep Creek monitoring station (2-DEP000.54) is located near the confluence with the Southern Branch Elizabeth R. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. In proximity to the monitoring site is a coal powered power plant (VPDES VA0004081: Chesapeake Energy Center) and roadway runoff. The specific source of the elevated sediment and fish tissue PCBs concentration is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01B00 t
bru SBE01C00

SEGMENT SIZE: 2.74 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the I-64 crossing of the Southern Branch Elizabeth (near Deep Cr).

RIVER MILE: 6.50

LATITUDE: 36.75800 **LONGTITUDE:** -76.29680

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the confluence with mainstem Elizabeth R.

RIVER MILE: 0.00

LATITUDE: 36.83900 **LONGTITUDE:** -76.29310

Segment begins at the I-64 crossing downstream to confluence with mainstem Elizabeth R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Tributyltin

Sufficient violations of Virginia's chronic water quality standard for Tributyltin (frequency of 100%) were recorded at DEQ's monitoring stations on the Southern Branch Elizabeth River (2-SBE006.26, 2-SBE004.61, 2-SBE002.88 and 02-SBE001.53) to assess this segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the Tributyltin standard violations is the presence of Tributyltin compounds in excess of the chronic standard (0.001ug/l) in 100% of observations.

IMPAIRMENT SOURCE Commercial port activities

The Southern Branch Elizabeth River monitoring stations are located throughout the mainstem from the area of the I-64 crossing (Deep Creek confluence) to the mouth. This segment supports considerable commercial vessel traffic with tributyltin hull coatings. Ship repair facilities bordering this segment may service vessels with tributyltin hull coatings, per provisions contained in their VPDES permits.

The specific source of the tributyltin standard violations is believed to be commercial port activities.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01F00

SEGMENT SIZE: 0.4 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins near Norfolk Naval Shipyard.

RIVER MILE: 1.76

LATITUDE: 36.81180 **LONGTITUDE:** -76.29010

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at mouth.

RIVER MILE: 1.0

LATITUDE: 36.83960 **LONGTITUDE:** -76.29310

Segment begins near Norfolk Naval Shipyard and extends downstream to mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at DEQ's ambient water quality monitoring station on the Southern Branch (2-SBE001.53) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Sufficient exceedance of screening values for sediment Zn and PCBs were recorded at the above monitoring station using Best Professional Judgement to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. The cause of the elevated zinc and PCBs concentrations is currently unknown.

IMPAIRMENT SOURCE Unknown

The subject Southern Branch monitoring station (2-SBE001.53) is located near the Norfolk Naval Shipyard in Portsmouth. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated toxics concentrations is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk

STREAM NAME: Eastern Branch (Lower), Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_EBE01C00

SEGMENT SIZE: 0.35 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at N&W RR trestle crossing of the Eastern Branch.

RIVER MILE: 1.0

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at confluence with mainstem Elizabeth R.

RIVER MILE: 0.0

LATITUDE: **LONGTITUDE:**

Segment begins at N&W RR trestle crossing downstream to mainstem.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

EPA required listing of this segment for FC due to 1998 303d Consent Decree & 10.3% violation rate at (2-EBE002.98) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. The cause of the elevated Fecal Coliform bacteria concentrations is unknown.

IMPAIRMENT SOURCE Unknown

The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from storm water runoff associated with the surrounding residential/urban area. The specific source of the elevated PCBs concentrations in fish tissue is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Broad Creek

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_BRO01A00

SEGMENT SIZE: 0.12 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins one-half mile upstream of Route 58 Bridge.

RIVER MILE: 3.25

LATITUDE: 36.86965 **LONGTITUDE:** -76.21363

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the mouth, confluence with Eastern Branch Elizabeth River.

RIVER MILE: 0.00

LATITUDE: 36.84176 **LONGTITUDE:** -76.22645

Segment begins one-half mile upstream of Route 58 Bridge downstream to the mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting, Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform, Dissolved Oxygen

Violations of the standard for FC bacteria were recorded at station on Broad Creek (02-BRO001.35) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Violations of standard for dissolved oxygen were recorded at two stations on Broad Cr. (2-BRO001.35, 2-BRO002.95) to assess this segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the FC bacteria standard violation is the presence of enteric bacteria. The cause of the depressed dissolved oxygen concentrations is unknown.

IMPAIRMENT SOURCE Unknown

The Broad Creek monitoring station is located at the Route 58 Bridge over Broad Creek in the City of Norfolk. The watershed receives inputs from storm water runoff associated with the surrounding residential /urban area. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown. This watershed is ranked high priority for potential NPS pollution by DCR.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Eastern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_EBE01B00

SEGMENT SIZE: 0.88 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at confluence of Broad Creek with Eastern Branch.

RIVER MILE: 4.00

LATITUDE: 36.83920 **LONGTITUDE:** -76.22680

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at N&W RR trestle crossing of the Eastern Branch.

RIVER MILE: 1.00

LATITUDE: 36.83830 **LONGTITUDE:** -76.27390

Segment begins at confluence of Broad Cr. downstream to N&W RR trestle crossing.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of the standard for FC Bacteria were recorded at DEQ's station on the Eastern Branch (2-EBE002.98) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Exceedance of fish tissue screening value for PCBs at the following monitoring station (2-EBE001.20) justify use of BPJ to evaluate this segment as threatened of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report. The cause of the elevated Fecal Coliform bacteria concentrations is unknown. The cause of the elevated fish tissue levels of PCBs is unknown, but may be related to sediment PCB contamination at a nearby site (2-SBE001.53) in the Southern Branch of the Elizabeth River.

IMPAIRMENT SOURCE Unknown

The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from storm water runoff associated with the surrounding residential/urban area. The specific source of the elevated PCBs concentrations in fish tissue is currently unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, City of

STREAM NAME: Indian River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_IND01A00

SEGMENT SIZE: 0.1 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at headwaters.

RIVER MILE: 2.70

LATITUDE: 36.80880 **LONGTITUDE:** -76.24000

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the mouth, confluence with Eastern Branch Elizabeth River.

RIVER MILE: 0.00

LATITUDE: 36.83450 **LONGTITUDE:** -76.24220

Segment begins at headwaters and extends to the mouth, confluence with Eastern Br.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at DEQ's ambient water quality monitoring station on Indian Creek (02-IND000.98) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report.

The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria.

IMPAIRMENT SOURCE Unknown

The watershed receives inputs from storm water runoff associated with the surrounding residential /urban area. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown. This watershed is ranked high priority for potential NPS pollution by DCR.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Norfolk, Cities of

STREAM NAME: Eastern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_EBE01C00 & EBE01B00

SEGMENT SIZE: 1.23 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the confluence of Broad Creek (RM 4.0).

RIVER MILE: 4.00

LATITUDE: 36.84030 **LONGTITUDE:** -76.22670

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the mouth, confluence with mainstem Elizabeth River.

RIVER MILE: 0.00

LATITUDE: 36.84110 **LONGTITUDE:** -76.28990

Segment begins at the confluence of Broad Creek downstream to the mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Tributyltin

Sufficient violations of Virginia's chronic water quality standard for Tributyltin were recorded at monitoring stations on the Eastern Branch Elizabeth River (2-EBE000.40, 2-EBE001.64, 2-EBE002.98) to assess this segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.
The cause of the Tributyltin standard violations is the presence of water column Tributyltin compounds in excess of the chronic standard (0.001ug/l) in 100% of observations.

IMPAIRMENT SOURCE Commercial port activities

This Eastern Branch Elizabeth River segment supports considerable commercial vessel traffic with tributyltin hull coatings. Ship repair facilities bordering this segment may service vessels with tributyltin hull coatings, per provisions contained in their VPDES permits. This segment also supports considerable commercial vessel traffic with tributyltin hull coatings.

The specific source of the tributyltin standard violations is believed to be commercial port activities.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, Portsmouth, Cities of

STREAM NAME: Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_ELI01A00 & ELI01B00

SEGMENT SIZE: 10 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters near Town Point

RIVER MILE: 7.80

LATITUDE: 36.84080 **LONGTITUDE:** -76.29130

DOWNSTREAM LIMIT:

DESCRIPTION: Corner Craney Isl. Containment Fac.

RIVER MILE: 0.20

LATITUDE: 36.89300 **LONGTITUDE:** -76.32940

Segment begins at the origin of the main stem Elizabeth River (approximately Town Point) and continues

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Tributyltin

Sufficient violations of the chronic water quality standard (at 100% frequency) for Tributyltin were recorded at monitoring stations on the main stem Elizabeth River (02-ELI002.00, 02-ELI003.17, and 02-ELI006.33) to assess this segment as partially supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the Tributyltin chronic standard violations is the presence of Tributyltin compounds in excess of the standard (0.001ug/l).

IMPAIRMENT SOURCE Commercial port activities

The main stem Elizabeth River monitoring stations are located at the entrance to the Scott Creek channel (02-ELI002.00), at the Lamberts Point coal piers (02-ELI003.17), and at Buoy #18 at Tanner Point (02-ELI006.33). This segment supports considerable commercial vessel traffic with tributyltin hull coatings. Ship repair facilities bordering this segment may service vessels with tributyltin hull coatings, per provisions contained in their VPDES permits. This watershed is ranked high priority for potential NPS pollution by DCR.

The specific source of the tributyltin standard violations is believed to be commercial port activities.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Portsmouth, City of

STREAM NAME: Western Branch Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_WBE01B00

SEGMENT SIZE: 1.1 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at confluence Sterns Creek.

RIVER MILE: 3.50

LATITUDE: 36.83730 **LONGTITUDE:** -76.38190

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at mouth, confluence with mainstem Elizabeth River.

RIVER MILE: 0.00

LATITUDE: 36.85740 **LONGTITUDE:** -76.33790

Segment begins at confluence Sterns Cr. downstream to mouth, confluence with mainstem.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Partially Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs

Sufficient exceedance of fish tissue screening value for PCBs at the following monitoring station (2-WBE002.11) to evaluate this segment as partially supporting of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report.

The cause of the elevated fish tissue levels of PCBs is unknown.

IMPAIRMENT SOURCE Unknown

The land use in the watershed is primarily industrial with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated toxic metals concentration is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Bedford

STREAM NAME: Reed Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAW-H01R_RED01A00

SEGMENT SIZE: 12.27 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Headwaters in Jefferson National Forest.

RIVER MILE: 12.27

LATITUDE: 37.49806 **LONGTITUDE:** -79.44470

DOWNSTREAM LIMIT:

DESCRIPTION: Reed Creek mouth on James R. below Big Island.

RIVER MILE: 0.00

LATITUDE: 37.52444 **LONGTITUDE:** -79.35011

The upper limit is the headwaters in the Jefferson National Forest on the Sedalia Quad. The segment ends at the mouth of Reed Creek on the James River below Big Island, Virginia. The segment spans the Snowden, Sedalia and Big Island Quads.

Note: Slight 1998 segment mileage adjustments are due to use of the National Hydrography Dataset (NHD).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Fecal coliform bacteria in the waters cause only partial support of the swimming goal at 2-RED000.16 (off Rt. 501). Five of 21 samples exceed the criterion of 1000 n/100 ml. The segment remains listed as in 1998.

IMPAIRMENT SOURCE NPS - Agriculture/Wildlife

The impairment source is believed to be due to agricultural / wildlife nonpoint source runoff.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Lynchburg, City of

STREAM NAME: Blackwater Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H03R_BKW01A00

SEGMENT SIZE: 10.24 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence of Tomahawk and Burton Creeks

RIVER MILE: 10.24

LATITUDE: 37.38639 **LONGTITUDE:** -79.21000

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth of Blackwater Creek on the James River

RIVER MILE: 0.00

LATITUDE: 37.41944 **LONGTITUDE:** -79.14611

Blackwater Creek from the confluence of Tomahawk and Burton Creeks to the mouth of Blackwater Creek on the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Blackwater Creek is not supporting the swimming use due to excessive counts of fecal coliform in 9/21 samples taken at 2BKW000.40. The segment is assessed as fully supporting but threatened for the aquatic life use. An exceedance of the US EPA screening value (SV) of 0.71 parts per billion (ppb) for mercury (Hg) in sediment was recorded at 2-BKW000.40.

IMPAIRMENT SOURCE NPS - Urban/CSO

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst, Campbell, Lynchburg, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H03R_JMS01A00

SEGMENT SIZE: 10.15 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Reusens dam

RIVER MILE: 262.77

LATITUDE: 37.46306 **LONGTITUDE:** -79.18590

DOWNSTREAM LIMIT:

DESCRIPTION: Archer Creek confluence with the James R.

RIVER MILE: 252.62

LATITUDE: 37.42417 **LONGTITUDE:** -79.14155

James River mainstem from Reusens dam downstream to the Archer Creek confluence with the James River. The segment spans the Lynchburg and Kelly Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of James River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceed the instantaneous 1000 n/100 ml criterion in 12/59 samples at 2-JMS258.54. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the total phophorus screening value of 0.20 mg/l. Total phosphorus exceeds the screening value in 6/58 samples at 2-JMS258.54. The segment begins in watershed VAC-H03R and ends in the upper portion of VAC-H05R.

A Consent Order requires the City of Lynchburg to embark on a long term project to correct sewage overflows (CSOs) by removing roof drains from homes and most importantly upgrading interceptor lines within the City. The total project cost was estimated to be 218 million dollars in 1989 dollars. A rough estimate for total project cost in today's dollars is 290 million dollars.

Since July 1, 1993 Lynchburg City has expended, authorized and appropriated 126.4 million dollars. A total of approximately 82.6 million dollars has been authorized for CSOs and 66.7 million dollars expended as reported in the DEQ Compliance Report for FY01. In addition 43.7 million dollars for Water Quality projects by the City are authorized. The Virginia Revolving Loan Fund (VRLF) and US EPA Special Purpose Grants account for approximately 75% of the 66.7 million dollars toward the projects through FY01.

As of June 2001 approximately 4,700 structures have had rainleaders disconnected representing approximately 73% of the total 6,432 structures. Citizens voluntarily disconnecting rainleaders saved the City an approximate 1 million dollars. Completed interceptor projects include Blackwater, Fishing and Ivy Creeks. 79 of the original 132 overflow points have been eliminated. The 2000 updated Lynchburg City sewer model

shows a 60% reduction in combined sewer overflow volume since 1989 due to completed CSO projects. In addition to remaining rainleader disconnects and overflow points other projects include the replacement of the James River interceptor and infrastucture upgrades within the collection and waste treatment system.

The 2002 segment is shorten from the 1998 303(d) Listing. Two upstream stations 2-JMS282.28 and 2-JMS275.75 find no exceedances of the fecal coliform bacteria instantaneous criterion each with 58 sample collections. Thus the segment is shortened to reflect these upstream conditions. The downstream end of the 1998 segment is shortened also as no data are available to substantiate extension beyond Archer Creek.

IMPAIRMENT SOURCE NPS - Urban/CSO

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Lynchburg, City of

STREAM NAME: Fishing Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H03R_FSG01A00

SEGMENT SIZE: 5.45 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: East of the Rt. 460 and Rt. 29 Junction

RIVER MILE: 5.45

LATITUDE: 37.37528 **LONGTITUDE:** -79.16333

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with James River

RIVER MILE: 0.00

LATITUDE: 37.39944 **LONGTITUDE:** -79.12361

Fishing Creek mainstem from its confluence with the James River upstream to east of the Rt. 460 and Rt. 29 junction.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Fishing Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 5/21 samples taken at 2-FSG000.85.

IMPAIRMENT SOURCE NPS - Urban/CSO

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Lynchburg, City of

STREAM NAME: Ivy Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H03R_IVA01A00

SEGMENT SIZE: 5.37 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Mouth of Chase Creek

RIVER MILE: 5.37

LATITUDE: 37.42167 **LONGTITUDE:** -79.22333

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Blackwater Creek

RIVER MILE: 0.00

LATITUDE: 37.41833 **LONGTITUDE:** -79.18556

Ivy Creek mainstem from the mouth of Cheese Creek downstream to Ivy Creek's confluence with Blackwater Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Ivy Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/18 samples taken at 2-IVA000.22.

IMPAIRMENT SOURCE NPS - Urban/CSO

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst

STREAM NAME: Graham Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H04R_GRA02A02

SEGMENT SIZE: 5.2 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 5.20

LATITUDE: 37.49000 **LONGTITUDE:** -79.16611

DOWNSTREAM LIMIT:

DESCRIPTION: Graham Creek Reservoir backwaters

RIVER MILE: 0.00

LATITUDE: 37.55556 **LONGTITUDE:** -79.20389

Graham Creek mainstem from the Graham Creek Reservoir backwaters upstream to its headwaters.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Graham Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/6 samples taken at 2-GRA0002.89.

IMPAIRMENT SOURCE NPS - Urban

The source of the fecal coliform is urban nonpoint source pollution.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Amherst

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H05R_JMS04A00

SEGMENT SIZE: 2.36 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Upper watershed boundary at the confluence of Williams Run

RIVER MILE: 255.24

LATITUDE: 37.40139 **LONGTITUDE:** -79.09806

DOWNSTREAM LIMIT:

DESCRIPTION: Archer Creek

RIVER MILE: 252.88

LATITUDE: 37.39361 **LONGTITUDE:** -79.06222

James River mainstem from the upper watershed boundary at the confluence of Williams Run downstream to the mouth of Archer Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of James River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 12/59 samples taken at 2-JMS258.54. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 6/58 samples taken at 2-JMS258.54.

IMPAIRMENT SOURCE NPS - Urban/CSO

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows. The source of phosphorus is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Amherst

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H05R_JMS01A00

SEGMENT SIZE: 6.15 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Wreck Island Creek confluence

RIVER MILE: 235.08

LATITUDE: 37.51222 **LONGTITUDE:** -78.89944

DOWNSTREAM LIMIT:

DESCRIPTION: Bent Creek

RIVER MILE: 228.93

LATITUDE: 37.53611 **LONGTITUDE:** -78.83000

James River mainstem from the Wreck Island Creek confluence downstream to the watershed boundary at the mouth of Bent Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of James River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 8/59 samples taken at 2-JMS229.14. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 6/59 samples taken at 2-JMS229.14. The segment is also threatened for the aquatic life use due to an exceedance of the sediment screening value. A DDT measurement of 10.06 ppb exceeded the DDT screening value of 7 ppb.

IMPAIRMENT SOURCE Unknown

The sources of fecal coliform and phosphorus are unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Appomattox

STREAM NAME: Wreck Island Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H06R_WIC01A00

SEGMENT SIZE: 9.75 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Confluence of Little Wreck Island Creek

RIVER MILE: 10.15

LATITUDE: 37.41722 **LONGTITUDE:** -78.89889

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth on the James River

RIVER MILE: 0.40

LATITUDE: 37.50722 **LONGTITUDE:** -78.89833

Wreck Island Creek mainstem from its mouth on the James River upstream to the confluence of Little Wreck Island Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Wreck Island Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/23 samples taken at 2-WIC000.40.

IMPAIRMENT SOURCE Agriculture

The source of the fecal coliform is agriculture.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nelson

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H08R_JMS01A00

SEGMENT SIZE: 10.08 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the Bent Creek confluence

RIVER MILE: 10.08

LATITUDE: 37.53611 **LONGTITUDE:** -78.82889

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Tye River confluence

RIVER MILE: 0.00

LATITUDE: 37.63972 **LONGTITUDE:** -78.80528

Segment begins at the Bent Creek confluence and ends at the Tye River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-JMS229.14 - 8 fecal coliform violations out of 59 samples during the 2002 assessment period and six total phosphorus values exceeded the screening value out of 59 samples resulting in a threatened assessment

In addition 1 species of fish had a Clorodane, DDE, DDT & PCB result that exceeded the screening value in 1995 resulting in a threatened assessment.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform is unknown.

The source of the organics is unknown.

The source of the total phosphorus is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nelson

STREAM NAME: Montebello Spring Branch

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H09R_MSB01A00

SEGMENT SIZE: 0.02 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2000 - 2002

UPSTREAM LIMIT:

DESCRIPTION: Montello Fish Cultural Station

RIVER MILE: 0.02

LATITUDE: 37.85028 **LONGTITUDE:** -79.13028

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Mill Creek

RIVER MILE: 0.00

LATITUDE: 37.85000 **LONGTITUDE:** -79.13000

Segment begins at the Montebello State Trout Cultural Station discharge and continues downstream to the confluence with Mill Creek .

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting 1998, 1

IMPAIRMENT CAUSE: General Standard (Benthic) 1998

A benthic survey in the Spring of 1995 indicated severely impaired waters below the Montebello State Trout Hatchery discharge. As a result the 0.02 miles of the stream below the discharge was assessed as not-supporting the Clean Water Act's Aquatic Life Use Support goal for the 1998 305(b) report. The cause of the impairment is organic enrichment and solids deposition. A TMDL is being developed for this segment and is scheduled for completion by 4/2002.

IMPAIRMENT SOURCE PS - Trout Farm - Montebello 1998

The source of the severe impairment is the Trout Cultural Station.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nelson

STREAM NAME: Piney River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H10R_PNY02A00

SEGMENT SIZE: 11.04 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 11.40

LATITUDE: 37.79056 **LONGTITUDE:** -79.11806

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Rt 151 Bridge.

RIVER MILE: 0.00

LATITUDE: 37.70250 **LONGTITUDE:** -79.02806

Segment begins at the headwaters and ends at the Rt 151 Bridge.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-PNY005.29 - 6 fecal coliform violations out of 59 samples during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst

STREAM NAME: Rutledge Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H12R_RTD02A00

SEGMENT SIZE: 2.34 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Higginbotham Creek

RIVER MILE: 2.34

LATITUDE: 37.57306 **LONGTITUDE:** -79.05250

DOWNSTREAM LIMIT:

DESCRIPTION: Amherst STP outfall

RIVER MILE: 0.00

LATITUDE: 37.58889 **LONGTITUDE:** -79.00194

Rutledge Creek mainstem from the mouth of Higginbotham Creek downstream to the Town of Amherst STP outfall on Rutledge Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Rutledge Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/20 samples taken at 2-RTD003.30

IMPAIRMENT SOURCE NPS - Urban

The source of the fecal coliform is urban nonpoint source pollution.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nelson

STREAM NAME: Buffalo River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H12R_BUF01A00

SEGMENT SIZE: 2.45 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Dam upstream of Rt. 629 Bridge

RIVER MILE: 2.45

LATITUDE: 37.60972 **LONGTITUDE:** -78.92389

DOWNSTREAM LIMIT:

DESCRIPTION: Buffalo R. mouth on the Tye R.

RIVER MILE: 0.00

LATITUDE: 37.62250 **LONGTITUDE:** -78.89694

The segment begins just upstream of the Rt. 629 Bridge crossing the Buffalo River at river mile 2.45 and extends downstream to the Buffalo River mouth on the Tye River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

DEQ's biological monitoring station at river mile 2.18 indicated moderate impairment. Therefore 2.45 miles of this stream was assessed as partially supporting the Clean Water Act's Aquatic Life Use Support Goal for the 1998 305(b) report. The exact cause of the moderately impaired benthic community at 2-BUF002.18 is unknown. The segment was not sampled during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source of the impairment is unknown. There is dam upstream that could cause fluctuations in water levels.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst

STREAM NAME: Rutledge Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H12R_RTD01A00

SEGMENT SIZE: 3.16 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Amherst STP outfall

RIVER MILE: 3.16

LATITUDE: 37.58361 **LONGTITUDE:** -79.03056

DOWNSTREAM LIMIT:

DESCRIPTION: mouth on Buffalo River

RIVER MILE: 0.00

LATITUDE: 37.58889 **LONGTITUDE:** -79.00194

Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Rutledge Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/20 samples taken at 2-RTD003.08. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 5/13 samples taken at 2-RTD003.30.

IMPAIRMENT SOURCE NPS - Urban

The source is a municipal point source (Amherst STP) and urban nonpoint source pollution.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Totier Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H17R_TOT01A00

SEGMENT SIZE: 11.29 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 11.29

LATITUDE: 37.82222 **LONGTITUDE:** -78.53194

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the James River confluence

RIVER MILE: 0.00

LATITUDE: 37.78417 **LONGTITUDE:** -78.49889

Segment begins at the headwaters and ends at the James River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-TOT002.61 - 7 fecal coliform violations out of 57 samples during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Little Georgia Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H17R_LTD01A02

SEGMENT SIZE: 6.03 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 6.03

LATITUDE: 37.82222 **LONGTITUDE:** -78.53194

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the James River confluence

RIVER MILE: 0.00

LATITUDE: 37.78417 **LONGTITUDE:** -78.49889

Segment begins at the headwaters and ends at the James River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-LTD000.96 - 6 fecal coliform violations out of 26 samples during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Fluvanna

STREAM NAME: Hardware River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H19R_HRD01A00

SEGMENT SIZE: 23.03 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 23.03

LATITUDE: 37.91750 **LONGTITUDE:** -78.55111

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the James River confluence

RIVER MILE: 0.00

LATITUDE: 37.73750 **LONGTITUDE:** -78.40222

Segment begins at the headwaters and ends at the James River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-HRD011.57 - 8 fecal coliform violations out of 56 samples during the 2002 assessment period.

2-HRD000.25 - 1 sediment sample exceeded the screening value for DDT in 1995 resulting in a threatened assessment.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform is unknown.

The source of the sediment DDT is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham, Cumberland

STREAM NAME: Bear Garden Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H20R_BGC01A98

SEGMENT SIZE: 9.4 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 9.40

LATITUDE: 37.62361 **LONGTITUDE:** -78.36111

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at James River

RIVER MILE: 0.00

LATITUDE: 37.70806 **LONGTITUDE:** -78.29000

Bear Garden Creek from the headwaters to the mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Bear Garden Creek is partially supporting the swimming use due to excessive fecal coliform bacteria counts in 4/27 samples taken at 2-BGC000.58.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Fluvanna

STREAM NAME: North Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H20R_NOR02A02

SEGMENT SIZE: 1.29 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Begins at the FUMA STP

RIVER MILE: 3.52

LATITUDE: 37.75750 **LONGTITUDE:** -78.25028

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the confluence with an X-Trib

RIVER MILE: 2.23

LATITUDE: 37.76361 **LONGTITUDE:** -78.22889

Segment begins at the FUMA discharge and continues downstream to the confluence with an X-Trib.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

This segment of North Creek is partially supporting of the Aquatic Life use support goal. A benthic assessment rated the benthic macroinvertebrate community as moderately impaired for the 2002 305(b) cycle.

IMPAIRMENT SOURCE Minor Municipal Point Source

The source is believed to be the FUMA discharge.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Slate River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H21R_SLT01A00

SEGMENT SIZE: 12.88 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Bryant Creek

RIVER MILE: 24.25

LATITUDE: 37.54972 **LONGTITUDE:** -78.57222

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Ripley Creek

RIVER MILE: 11.37

LATITUDE: 37.51694 **LONGTITUDE:** -78.52306

The Slate River from the confluence with Bryant Creek downstream to the confluence with Ripley Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Slate River is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/10 samples taken at PL-1A, a confined animal feeding operation (CAFO) special study station.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Frisby Branch

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H21R_FRY01A00

SEGMENT SIZE: 1.34 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 3.74

LATITUDE: 37.52472 **LONGTITUDE:** -78.67472

DOWNSTREAM LIMIT:

DESCRIPTION: Unnamed tributary at river mile 2.4

RIVER MILE: 2.40

LATITUDE: 37.52889 **LONGTITUDE:** -78.65194

Frisby Branch from its headwaters to an unnamed tributary at river mile 2.4

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Frisby Branch is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. High counts were found in 2/6 samples taken at PL-23A, a confined animal feeding operation (CAFO) special study station.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Austin Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H21R_AUS01A00

SEGMENT SIZE: 5.4 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 5.40

LATITUDE: 37.51583 **LONGTITUDE:** -78.72333

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at North River

RIVER MILE: 0.00

LATITUDE: 37.55556 **LONGTITUDE:** -78.65056

Austin Creek from its headwaters to the mouth at North River

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: pH

Austin Creek is not supporting the aquatic life use support goal due to pH violations in 2/6 monitoring events at PL-23D, a confined animal feeding operation (CAFO) special study station at river mile 1.00.

IMPAIRMENT SOURCE Unknown

The source of the pH violations is unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: North River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H21R_NTH01A00

SEGMENT SIZE: 8.44 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Meadow Creek

RIVER MILE: 8.44

LATITUDE: 37.55833 **LONGTITUDE:** -78.64222

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at Slate River

RIVER MILE: 0.00

LATITUDE: 37.57056 **LONGTITUDE:** -78.54833

The North River from the confluence with Meadow Creek to the mouth at the Slate River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: pH, Fecal Coliform

This segment of North River is not supporting the swimming use due to excessive counts of fecal coliform bacteria. High counts were found in 5/21 samples taken at 2-NTH001.65, 3/6 at PL-20A, and 1/5 at PL-20B. The segment is not supporting of the aquatic life use due to pH violations in 3/10 monitoring events at PL-20B. PL-20A and PL-20B are confined animal feeding operation (CAFO) special study stations.

IMPAIRMENT SOURCE Unknown

The sources of fecal coliform and pH violations are unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Slate River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H22R_SLT02A02

SEGMENT SIZE: 3.48 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Sharps Creek

RIVER MILE: 7.12

LATITUDE: 37.69417 **LONGTITUDE:** -78.41889

DOWNSTREAM LIMIT:

DESCRIPTION: River mile 3.64

RIVER MILE: 3.64

LATITUDE: 37.70250 **LONGTITUDE:** -78.37722

The Slate River from the confluence with Sharps Creek to river mile 3.64.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Slate River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/26 samples taken at 2-SLT03.88.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Slate River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H22R_SLT03A02

SEGMENT SIZE: 3.64 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: River mile 3.64

RIVER MILE: 3.64

LATITUDE: 37.70472 **LONGTITUDE:** -78.37444

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at James River

RIVER MILE: 0.00

LATITUDE: 37.71444 **LONGTITUDE:** -78.32417

The Slate River from river mile 3.64 to the mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Slate River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/26 samples taken at 2-SLT003.88.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Ivy Creek

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H26R_IVC03A00

SEGMENT SIZE: 5.23 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2006 - 2008

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 13.65

LATITUDE: 38.01389 **LONGTITUDE:** -78.62639

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Little Ivy Crk confluence

RIVER MILE: 8.42

LATITUDE: 38.06000 **LONGTITUDE:** -78.57694

Segment begins at the headwaters and ends at the Little Ivy Creek confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-IVC010.20 - 2 fecal coliform violations out of 12 samples during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Greene

STREAM NAME: Swift Run

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H27R_SFR01A00

SEGMENT SIZE: 16.47 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2006 - 2008

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 16.47

LATITUDE: 38.36389 **LONGTITUDE:** -78.53750

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Roach River

RIVER MILE: 0.00

LATITUDE: 38.19417 **LONGTITUDE:** -78.45278

The Segment begins at the headwaters and continues downstream to the confluence with the Roach River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-SFR000.60 - 2 fecal coliform violations out of 14 samples during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: N.F. Rivanna River

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H27R_RRN01A00

SEGMENT SIZE: 10.38 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Preddy Creek

RIVER MILE: 10.38

LATITUDE: 38.13000 **LONGTITUDE:** -78.40000

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence of NF & SF Rivanna R.

RIVER MILE: 0.00

LATITUDE: 38.07417 **LONGTITUDE:** -78.44028

Segment begins at the N.F. Rivanna River's confluence with Preddy Creek and continues downstream to its confluence with the S.F. Rivanna River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

DEQ's biological monitoring station at river mile 2.64 indicated moderate impairment. As a result 6.35 stream miles were assessed as partially supporting the Clean Water Act's Aquatic Life Use Support goal for the 1998 305(b) report. The exact cause of the moderately impaired rating is unknown. The stream was not sampled during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Meadow Creek

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_MWC01A00

SEGMENT SIZE: 5.62 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 5.62

LATITUDE: 38.05528 **LONGTITUDE:** -78.49611

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Rivanna River confluence

RIVER MILE: 0.00

LATITUDE: 38.04528 **LONGTITUDE:** -78.45444

Segment begins at the headwaters and ends at the Rivanna River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-MWC000.60 - 4 fecal coliform violations out of 23 samples during the 2002 assessment period.

2MWC-8-SOS - Had a medium probability of impairment rating.

IMPAIRMENT SOURCE NPS - Urban, Unknown

The source is believed to be NPS Urban Runoff.

The source of the benthic ratings is not known.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle, Fluvanna

STREAM NAME: Rivanna River

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_RVN01A00

SEGMENT SIZE: 13.42 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2000 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 42.33

LATITUDE: 38.07278 **LONGTITUDE:** -78.43944

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Buck Island Creek

RIVER MILE: 28.91

LATITUDE: 37.96000 **LONGTITUDE:** -78.37000

Segment begins at the confluence of the North & South Rivanna Rivers and continues downstream to the Rivanna Rivers confluence with Buck Island Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting - 1998, 2

IMPAIRMENT CAUSE: General Standard (Benthic) 1998

DEQ's biological monitoring station at river mile 35.91 indicated moderate impairment. Therefore 13.42 miles of this stream was assessed as partially supporting the Clean Water Act's Aquatic Life Use Support Goal for the 1998 305(b) report. This stream was not sampled during the 2002 assessment period.

2-RVN033.65 - 12 total phosphorus values out of 59 samples exceeded the screening value resulting in a threatened assessment for 8.23 stream miles.

IMPAIRMENT SOURCE NPS - Urban 1998, Unknown

The source of the benthic impairment is believed to be NPS urban runoff.

The source of the total phosphorus is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle, Charlottesville, City of

STREAM NAME: Moores Creek

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_MSC01A00

SEGMENT SIZE: 6.36 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Intersection of Rt. 29 & 1106

RIVER MILE: 6.36

LATITUDE: 38.02000 **LONGTITUDE:** -78.54000

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with the Rivanna River

RIVER MILE: 0.00

LATITUDE: 38.02000 **LONGTITUDE:** -78.45000

Segment begins at the intersection of Rt 29 and Rt 1106 and continues downstream to the confluence with the Rivanna River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-MSC000.60 - 4 fecal coliform violations out of 23 samples during the 2002 assessment period. A TMDL is being developed for this segment and is scheduled to be completed by 4/2002.

IMPAIRMENT SOURCE NPS - Urban

The source is believed to be NPS urban runoff.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Powhatan

STREAM NAME: Stegers Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H33R_STG01A00

SEGMENT SIZE: 4.58 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 4.58

LATITUDE: 37.55580 **LONGTITUDE:** -77.94650

DOWNSTREAM LIMIT:

DESCRIPTION: Sallee Creek

RIVER MILE: 0.00

LATITUDE: 37.57780 **LONGTITUDE:** -78.00570

Segment comprises Stegers Creek from its headwaters to the confluence with Sallee Creek, including upper and lower Powhatan Lakes.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Antimony

This segment was assessed as not supporting of the Aquatic Life Use goals based on dissolved oxygen standard exceedances at three special study stations (2-STG002.00, 2-STG000.91, 2-STG000.21). In addition, station 2-STG000.91 had an antimony ER-M exceedance rate of 1/1 in 1994.

IMPAIRMENT SOURCE Stratification, Unknown

The DO violations in this segment are attributed to natural conditions (swamps). The source for the antimony violation is unknown. Continued monitoring to increase the data set and make a confident assessment is recommended. Targeted monitoring and wetland delineation may be necessary to identify the limits of the segment affected by natural conditions. Such segments should be reclassified as wetlands.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Powhatan

STREAM NAME: Deep Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H33R_DCR01A98

SEGMENT SIZE: 11.41 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Maxey Mill Creek confluence

RIVER MILE: 14.20

LATITUDE: 37.51330 **LONGTITUDE:** -78.10900

DOWNSTREAM LIMIT:

DESCRIPTION: Route 684 bridge

RIVER MILE: 3.00

LATITUDE: 37.60420 **LONGTITUDE:** -77.99970

Segment begins at the confluence of Deep Creek with Maxey Mill Creek, and extends downstream to the Route 684 bridge.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Temperature

Segment assessed partially supporting for Aquatic Life use support based on a D.O. standard violation rate of 3/27 recorded at the Route 684 bridge (2-DCR003.00) and the violation rate of 2/2 at 2-DCR007.93. There were also DO violations at three 1994 special study stations along Deep Creek (2-DCR013.89, 2-DCR012.54, 2-DCR008.85.)

This segment has been shortened to end at the Route 684 bridge (11.2 miles) because a downstream dam provides reaeration.

In addition there was a temperature violation rate of 2/8 at the citizen monitoring station 2DCR-B-PIE.

IMPAIRMENT SOURCE Unknown

The source of the impairment in this stream segment is currently considered unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Fluvanna, Goochland

STREAM NAME: Byrd Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H34R_BYR01A98

SEGMENT SIZE: 25.97 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 25.97

LATITUDE: 37.95120 **LONGTITUDE:** -78.16410

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.72380 **LONGTITUDE:** -78.09460

Segment comprises all of Byrd Creek, from its headwaters to its mouth at the Little River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Evaluated as partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 3/27 recorded at the Route 603 bridge (2-BYR003.35).

IMPAIRMENT SOURCE Unknown

The source of the impairment is considered unknown.

Continued monitoring is recommended to increase the data set and make a confident assessment. Targeted monitoring may be necessary to further delineate the segment and characterize the causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham

STREAM NAME: Willis River, UT (XQM)

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAC-H35R_XQM01A00

SEGMENT SIZE: 1.72 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 1.72

LATITUDE: 37.45722 **LONGTITUDE:** -78.57250

DOWNSTREAM LIMIT:

DESCRIPTION: Willis River

RIVER MILE: 0.00

LATITUDE: 37.43611 **LONGTITUDE:** -78.56611

Unnamed tributary to the Willis River

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen

The unnamed tributary to Willis River is not supporting the aquatic life use due to violations of the dissolved oxygen (DO) standard. Low DO levels were recorded in 3/10 monitoring events at PL-24B, a confined animal feeding operation (CAFO) special study station.

IMPAIRMENT SOURCE Unknown

The source of the DO standard violations is unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham, Cumberland

STREAM NAME: Willis River

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAC-H35R_WLL01A00

SEGMENT SIZE: 10.06 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 20.06

LATITUDE: 37.44000 **LONGTITUDE:** -78.63056

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Tongue Quarter Creek at river mile 10.

RIVER MILE: 10.00

LATITUDE: 37.44806 **LONGTITUDE:** -78.48472

The Willis River from its headwaters to Tongue Quarter Creek at river mile 10.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Willis River is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/10 samples taken at PL-24A and 4/10 at PL-24C, confined animal feeding operation (CAFO) special study stations.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham, Cumberland

STREAM NAME: Randolph Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAC-H36R_RND01A00

SEGMENT SIZE: 11.52 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 12.93

LATITUDE: 37.58972 **LONGTITUDE:** -78.39944

DOWNSTREAM LIMIT:

DESCRIPTION: Upstream limit of Sports Lake

RIVER MILE: 1.41

LATITUDE: 37.64083 **LONGTITUDE:** -78.23944

Randolph Creek from the headwaters to the upstream limit of Sports Lake.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Randolph Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/10 samples taken at PL-21A and 3/10 at PL-21B, confined animal feeding operation (CAFO) special study stations.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Buckingham, Cumberland

STREAM NAME: Willis River

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAC-H36R_WLS01A00

SEGMENT SIZE: 14.53 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** - 2002

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Reynolds Creek

RIVER MILE: 14.53

LATITUDE: 37.61528 **LONGTITUDE:** -78.20861

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at James River

RIVER MILE: 0.00

LATITUDE: 37.68167 **LONGTITUDE:** -78.10972

The Willis River downstream of the confluence with Reynolds Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Willis River is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/27samples taken at 2-WLS004.27.

IMPAIRMENT SOURCE Agriculture

A Total Maximum Daily Load (TMDL) study was conducted in 2001-2002 to determine the source of fecal coliform. The results attribute excessive fecal coliform loading to agriculture.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland

STREAM NAME: Big Lickinghole Creek, Little Lickinghole Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H37R_BLG01A98

SEGMENT SIZE: 29.54 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 11.96

LATITUDE: 37.69440 **LONGTITUDE:** -77.95910

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth of Big Lickinghole Creek

RIVER MILE: 0.00

LATITUDE: 37.68950 **LONGTITUDE:** -77.93100

The mainstems of Big Lickinghole Creek and Little Lickinghole Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The creeks were assessed partially supporting of the Swimmable use support goals based on water quality monitoring performed at the confluence of Big Lickinghole Creek and Little Lickinghole Creek (2-BLG002.60). The fecal coliform violation rate was 3/27.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform violation is considered unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Richmond, City of

STREAM NAME: Reedy Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_RDD01A00

SEGMENT SIZE: 3.68 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 3.68

LATITUDE: 37.50910 **LONGTITUDE:** -77.51680

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.52440 **LONGTITUDE:** -77.46960

Segment comprises Reedy Creek from its headwaters to its mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The segment was assessed not supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 8/26 recorded on Riverside Drive in the City of Richmond (2-RDD000.19).

IMPAIRMENT SOURCE NPS - Urban

The fecal coliform standard violations are attributed to urban runoff and storm sewers upstream in the watershed. However, additional monitoring is necessary to increase the data set and make a confident assessment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Henrico, Richmond, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_JMS02A98

SEGMENT SIZE: 6.34 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: William's Island Dam

RIVER MILE: 116.30

LATITUDE: 37.55830 **LONGTITUDE:** -77.52720

DOWNSTREAM LIMIT:

DESCRIPTION: Fall Line (Mayos Bridge)

RIVER MILE: 110.30

LATITUDE: 37.53040 **LONGTITUDE:** -77.43400

Segment begins at the William's Island Dam at river mile 116.30 and extends downstream to the fall line of the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The James River was assessed not supporting of the Swimmable use support goal based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts. The special study data used representative conditions before completion of CSO abatement projects.

For the 2002 cycle, the segment was assessed as not supporting for the Swimmable use support goal based on a geometric mean fecal coliform violation rate of 9/30 at 2-JMS115.29. The segment has been extended upstream from the 1998 cycle.

IMPAIRMENT SOURCE NPS - Urban, CSO

The source of the impairment in this section of the river is believed to be urban runoff from the tributary drainage basin and from combined sewer overflow events from the City of Richmond's combined sewer system.

The City is currently undertaking CSO abatement efforts. It is recommended that the ongoing CSO special study be continued to gauge the effects of CSO abatement efforts on water quality in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, City of Richmond

STREAM NAME: Powhite Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_PWT01A98

SEGMENT SIZE: 8.12 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 8.12

LATITUDE: 37.53210 **LONGTITUDE:** -77.60010

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.53860 **LONGTITUDE:** -77.50010

Powhite Creek from its headwaters to its mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The segment was assessed partially supporting of the Swimmable use goals based on a fecal coliform standard violation rate of 3/19 at the Route 635 (Forest Hill Avenue) bridge (2-PWT000.57.)

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform bacteria is unknown, but is suspected to be urban runoff.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland

STREAM NAME: Little Tuckahoe Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_LIY01A00

SEGMENT SIZE: 5.25 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 5.25

LATITUDE: 37.71680 **LONGTITUDE:** -77.64700

DOWNSTREAM LIMIT:

DESCRIPTION: Tuckahoe Creek confluence

RIVER MILE: 0.00

LATITUDE: 37.64000 **LONGTITUDE:** -77.65460

Segment includes Little Tuckahoe Creek from its headwaters to the confluence with Tuckahoe Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting, Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Fecal Coliform

The segment was evaluated as partially supporting of the Aquatic Life and Swimmable use support goals in 2000 based on monitoring data collected at 2-LIY001.73.

The segment was assessed as not supporting the aquatic life use support goals in 2002, having a dissolved oxygen violation rate of 4/37 at 2-LIY001.73 and 11/26 at TKHC-02; and a phosphorus violation rate of 3/26 at TKHC-02.

The segment was assessed as not supporting the swimmable use support goals, having a violation rate of 10/35 at 2-LIY001.73.

IMPAIRMENT SOURCE Unknown

Source of dissolved oxygen and fecal coliform standard violations is considered unknown.
Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland, Henrico

STREAM NAME: Tuckahoe Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_TKO02A98

SEGMENT SIZE: 8.7 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Little Tuckahoe Creek

RIVER MILE: 8.73

LATITUDE: 37.64000 **LONGTITUDE:** -77.65460

DOWNSTREAM LIMIT:

DESCRIPTION: James River

RIVER MILE: 0.00

LATITUDE: 37.56460 **LONGTITUDE:** -77.65400

Segment begins at confluence with Little Tuckahoe Creek and extends downstream to the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Fecal Coliform

The segment was originally assessed not supporting of the Swimmable use support goal based on a fecal coliform violation rate of 8/31 at 2-TKO004.69 in 1998.

For the 2002 cycle, the segment was assessed as not supporting for aquatic life use having a dissolved oxygen violation rate of 24/49, and partially supporting for swimmable use having a fecal coliform violation rate of 6/47 at 2-TKO004.69.

DO 10/26 at TKHC-03
DO 14726 at TKHC-04

IMPAIRMENT SOURCE NPS - Urban

The specific cause of the DO problem in Tuckahoe Creek is considered unknown, although organic enrichment and excessive nutrients are suspected to be contributing to the problem.

The major tributaries of Tuckahoe Creek are all designated fully supporting but threatened of the Aquatic Life and Swimmable use support goals.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Richmond, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_JMS03A98

SEGMENT SIZE: 3.29 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Boulevard Bridge

RIVER MILE: 113.50

LATITUDE: 37.53150 **LONGTITUDE:** -77.48440

DOWNSTREAM LIMIT:

DESCRIPTION: Fall Line (Mayos Bridge)

RIVER MILE: 110.30

LATITUDE: 37.53040 **LONGTITUDE:** -77.43400

Segment begins at the Boulevard Bridge and extends downstream to the fall line of the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic), Dissolved Oxygen

The James River was assessed partially supporting of the Aquatic Life use support goal based on the results of biological (benthic) monitoring at station JMS110.34 and JMS110.44, which indicated moderately impaired benthic communities when compared to the control station at JMS115.29. Acanthamoeba (an amoebae that inhabits lesions in fish and has a remote chance of having human health effects) was detected in lesions in fish taken from the James River near Mayo Bridge in September 1997. In addition, scattered stations within the segment had exceedances of the dissolved oxygen violation rate.

IMPAIRMENT SOURCE NPS - Urban, CSO

The source of the impairment in this segment is believed to be urban runoff from the tributary drainage basin and from combined sewer overflow (CSO) events from the City of Richmond's combined sewer system.

The City of Richmond is currently undertaking CSO abatement efforts. The special monitoring study should be continued to gauge the effects of the CSO abatement efforts on monitored fecal coliform levels.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico

STREAM NAME: Deep Run

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_DPR01A00

SEGMENT SIZE: 4.49 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 5.96

LATITUDE: 37.65220 **LONGTITUDE:** -77.56430

DOWNSTREAM LIMIT:

DESCRIPTION: Pond

RIVER MILE: 1.47

LATITUDE: 37.60460 **LONGTITUDE:** -77.60120

Deep Run from its headwaters to the low water line of the impoundment at mile 1.47.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting, Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Fecal Coliform

The segment was evaluated partially supporting of the Aquatic Life support goal and not supporting of the Swimmable use goal in 2000 based on monitoring data collected at 2-DPR002.46.

The segment was assessed as partially supporting the Aquatic Life support goal in 2002, having a dissolved oxygen violation rate of 6/43; and was assessed not supporting the Swimmable use goal having a fecal coliform violation rate of 18/41.

IMPAIRMENT SOURCE Unknown

Source of dissolved oxygen and fecal coliform standard violations is considered unknown. Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Alleghany, Covington, City of, Clifton Forge, City of

STREAM NAME: Jackson River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I04R_JKS02A00

SEGMENT SIZE: 25.45 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2004 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Just downstream of the Covington water intake.

RIVER MILE: 25.45

LATITUDE: 37.81639 **LONGTITUDE:** -79.98904

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence of the Jackson and Cowpasture Rivers.

RIVER MILE: 0.00

LATITUDE: 37.78417 **LONGTITUDE:** -79.77614

The segment's upstream limit is on the Jackson River just below the Covington City Water Treatment Plant coursing downstream to the confluence of the Jackson and Cowpasture Rivers.

Note: The original 1998 VAW-I04R and VAW-I09R listed segments are combined into one segment. The swimming use fecal coliform bacteria impairment is extended upstream 1.24 miles in VAW-I04R. Changes in segment mileage are due to this expansion and the use of the National Hydrography Dataset (NHD).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting, Aquatic Life Use - Partially Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform - 3.38 miles, General Standard (Benthic) - 24.21 miles, Dissolved Oxygen - 11.21 miles

The original 1998 VAW-I04R and VAW-I09R listed segments are combined into one segment. The swimming use fecal coliform bacteria impairment is extended upstream 1.24 miles in VAW-I04R.

2002 Assessment station locations are:
2-JKS000.38 - Rt. 727 Bridge - near Iron Gate
2-JKS006.67 - Low Water Bridge - near Dabney Lancaster CC
2-JKS011.92 - Island Ford Bridge, Rt. 1101 - SS
2-JKS013.29 - Off Rt. 696 above Lowmoor
2-JKS013.45 - Island Ford Cave above Lowmoor - SS
2-JKS015.80 - Between I-64 & CSX Railroad N/Mallow - SS
2-JKS017.03 - Byrd's Farm #2 - SS
2-JKS017.30 - Byrd's Farm East of Covington - SS
2-JKS018.68 - Rt. 18 Bridge at Covington (Attachment B)
2-JKS018.68 - Rt. 18 Bridge at Covington - SS (Benthic)

2-JKS021.06 - S. Rayon Dr. Bridge, Covington - SS
2-JKS021.40 - Below I-64 Bridge & Harmon Run - SS (Benthic)
2-JKS022.15 - Industrial Park behind Wal-Mart - SS
2-JKS022.55 - Sediment Station
2-JKS022.78 - Fudge's Bridge, Rt. 154, Covington - SS
2-JKS023.32 - Swinging Bridge
2-JKS023.61 - City Park - Covington at gage
2-JKS023.61 - City Park - Covington at gage - SS (Benthic)
2-JKS023.88 - Covington City Park - Sediment & Fish Tissue
2-JKS024.14 - Rt. 60 Bridge, Covington - SS
2-JKS026.01 - Covington Water Filtration Plant (I04R) - SS
2-JKS030.65 - Rt. 687 Bridge - Clearwater Park (I04R)

Swimming Use
No exceedances of the fecal coliform bacteria instantaneous criterion of 1000 n/100 ml were recorded at 2-JKS030.65 (I04R) in 58 samples. Exceedances of the criterion occur at 2-JKS023.61 (I09R) in 19 of 59 samples over the five year period. Nonsupport of the swimming goal extends from river mile 25.45 (I04R- 1.71 miles) to 22.07 (I09R- 1.67 miles), a total distance of 3.38 miles. The waters do not support the swimming use. Although exceedances continue in the segment the presence of Klebsiella pneumoniae may be skewing the magnitude of the results (false positive readings).

2-JKS018.68 records only one of 58 samples exceeding the instantaneous criterion meeting the CWA swimming use goal (Attachment B). Past 305(b) reporting cycles in 1994 and 1996 note swimming nonsupport downstream of 2-JKS018.68. 2002 Assessment data at 2-JKS006.67 and 2-JKS000.38 each find two exceedances in 58 samples. All supporting the swimming use.

Westvaco Corporation performs confirmed phase testing for determining the presence of fecal coliform bacteria. Klebsiella pneumoniae can give false positive results for fecal coliform bacteria in the confirmed phase of testing. The company has extended testing to the completed phase. The completed test is performed on all positive confirmed phase samples. The results of the completed phase test provides more specific data for the presence of true fecal coliform bacteria. Effluent data reported show the majority of confirmed phase positive fecal coliform bacteria counts found are Klebsiella pneumoniae. The company will begin bacterial water quality monitoring in both the effluent and two downstream sites in 2002.

Past sewage pump station overflows, as well as some overflows at manholes, have been noted both upstream in VAW-I04R and in VAW-I09R. In 1988 Covington City became subject to a consent decree requiring elimination of combined sewer overflows; this work was completed in 1995 and the decree canceled. The City of Covington was subject to a consent order and penalty for an overflow in 1997.

Capital improvements have been made (1995 to 1999) to the collection and storm water systems. These improvements include Parrish Court (1995 & 1998; removal of storm water connections), Parklin Heights (1996), Dry Run (1998), Magazine Street (1998) and downtown sections of the City correcting I&I problems. Roof drains and sump pumps have been disconnected from the sewer system. In 1999 work on manholes in the downtown area was completed.

More recent capital improvements have been completed by Alleghany County for the Clearwater / Interval portion served by Covington. Installation of pump stations at Clearwater Park and Interval are complete as well as construction of an equalization basin and pump station ahead of the Covington Dry Run pump station. Initiation of operations began February 5, 2001. February 6, 2002 Alleghany County provided Submittal of Performance Certification (equipment performance standards verified).

In light of the elevated fecal coliform counts at 2-JKS023.61 (Maximum of 8,000+ n/100 ml; on three occasions) the 3.38 mile segment in watersheds I04R and I09R remains nonsupporting of the CWA swimming goal.

Aquatic Life Use
General Standard (Benthic): An aquatic life use nonsupport portion extends 2.14 miles on the Jackson from river mile 24.21 (I04R- 0.47 miles) (37°48'01.31" / 079°59'33.79") to 22.07 (I09R- 1.67 miles) due to severe impacts to the benthic community as measured at 2-JKS023.61. Rapid Biological Protocol II (RBP II) surveys report the invertebrate community is dominated by taxa that are tolerant of environments with low dissolved oxygen and high levels of solids (e.g.. Tubificidae, Planariidae, Chironomidae, and Simulidae).

A 9.07 mile partially supporting benthic portion extends from river mile 22.07 to 13.00 as measured at 2-JKS021.40 (single survey) and 2-JKS018.68 (10 surveys). 2-JKS018.68 shows some improvement relative to the City Park station. However, the benthic community is still dominated by pollution tolerant taxa.

Nonsupport is found at 2-JKS013.29 river miles 13.00 to 5.19 (nine surveys). The Lowmoor station has consistently had lower assessment scores and higher numbers of pollution tolerant organisms. Over the five-year period there is no difference in scores.

And downstream partial support is exhibited at 2-JKS0006.67 (nine surveys) from 5.19 on downstream to the Jackson River confluence with the Cowpasture River. Results from fall surveys may indicate a more stressed benthic community when stream flow is naturally lower and pollution effects more evident.

Impairments to the benthic community are believed due to nutrient and organic enrichment (deposition) for 24.21 miles. Based on ambient station solids data, the nutrients and organics are mainly dissolved.

Dissolved Oxygen: Diurnal swings in dissolved oxygen cause nonsupport of the aquatic life use for a total of 11.21 miles extending from river mile 24.21 (I04R- 0.47 miles) to 13.00 (I09R- 10.74 miles) (37°46'49.59 / 079°55'40.00"). Although there are only eight excursions of the minimum 4.0 mg/l dissolved oxygen (DO) standard in the ambient data multiple excursions are found in dissolved oxygen recorder data.

Ambient and intensive data indicate a diurnal affect. Intensive survey recorder data confirm late summer and early fall diurnal excursions of the minimum DO. A YSI 6000 recorder found 222 exceedances of the minimum from 481 measurements over approximately four days, September 16 through 21 in 1998. The minimum found is 1.22 mg/l on 09/21 at 8:15 AM and the maximum the same day at 12:00 noon 9.64 mg/l. Measurements at 2-JKS023.61 collected outside the monthly sampling program found six of 25 exceedances. Four of the nonexceeding values were between 4.0 - 5.0 mg/l. Measurements made at the following stations also find DO values between 4.0 and 5.0 mg/l. Their results are (exceedances / total measurements; values between 4.0 - 5.0 mg/l):

2-JKS024.14 - 0/12; 0, 2-JKS023.61 - 0/65; 3, 2-JKS023.32 - 0/3; 0,
2-JKS022.78 - 0/14; 0, 2-JKS022.15 - 0/17; 4, 2-JKS021.40 - 0/1; 0,
2-JKS021.06 - 0/12; 1,
2-JKS018.68 (outside monthly measurements)- 0/12; 1,
2-JKS018.68 (monthly) - 1/65; 3,
2-JKS017.30 - 0/14; 6, 2-JKA017.03 - 1/3; 2, 2-JKS015.80 - 0/9; 5,
2-JKS013.45 - 0/6; 0, 2-JKS013.29 - 0/8; 0, 2-JKS011.92 - 0/2; 0,
2-JKS006.67 - 0/65; 0 and 2-JKS000.38 - 0/58; 0.

Total Phosphorus: Elevated total phosphorus concentrations are believed one of the causes for dissolved oxygen diurnal depressions. Elevated concentrations are found in the entire 24.21 mile segment. Total phosphorus threshold exceedances extend to the mouth of the Jackson River as measured at 2-JKS000.38 where 17 of 58 total phosphorus samples exceed the 0.2 mg/l threshold. 2-JKS023.61 found 26 of 59, 2-JKS018.68, 15 of 58 and 2-JKS006.67, 13 of 57 exceedances of the criterion.

Each of the four ambient station arithmetic average total phosphorus concentrations are above the 0.20 mg/l threshold. Concentrations range from 0.21 mg/l at 2-JKS000.38 to 0.29 at 2-JKS023.61 in the five year data window. A decrease in magnitude and frequency is found from the 2000 Cycle where 29 of 60 samples at 2-JKS000.38 and 37 of 60 exceed at 2-JKS023.61. Examination of the 2002 maxima also show a decrease in magnitude from 0.70 mg/l to 1.20 mg/l versus 2000 Cycle maxima of 2.10 to 3.40 mg/l at the aforementioned stations. In contrast an upstream station 2-JKS030.65 (I04R) reports concentrations at or below 0.20 mg/l for the five year period. Ambient station solids data indicate the nutrients and organics are mainly dissolved. No total phosphorus threshold exceedances were found in tributary data from Dunlap Creek 2-DNP001.98 (I07R), Potts Creek 2-POT000.12 (I11R) 14 samples each, or at Wilson Creek 2-WLN010.35 (I09R) 15 samples.

Sediment: Two segments of the Jackson River are 'Threatened' for the aquatic life use. The first is in the Covington area. An exceedance of the 1995 NOAA effect range- median (ER-M) sediment screening value (SV) was found at station 2-JKS023.88 for zinc (Zn SV=410 ppm, 1 of 1 sample 709 max.). Station 2-JKS023.61 found exceedances of the NOAA ER-M sediment metal SV for zinc (Zn, SV= 410 ppm, 2 of 4 samples 822 max.). Sediment polychlorinated biphenyls (PCBs) are above the screening value (SV) of 180 ppb with a maximum of 490 at 2-JKS023.61 from a 1998 collection. A 1997 sediment collection at 2-

JKS022.55 found PCBs (SV= 180 ppb, 1 of 1 sample 182.4 max.) and chlorodane (SV= 6 ppb, 1 of 1 sample 17.6 max.) exceeding the NOAA ER-M screening values as well. These results designate the segment fully supporting, but threatened for the aquatic life use. 5.41 miles are 'Threatened' from river mile 24.21 (I04R) to 18.80 (I09R) (37°45'25.97" / 079°59'41.90").

The second is in the lower portion of the Jackson from the US 60/220 crossing (37°48'33.81" / 079°50'36.65") downstream to the Jackson and Cowpasture River confluence. A distance of 5.19 miles. Exceedances of the 1995 NOAA ER-M SV are found for nickel (Ni, SV= 51.6 ppm, 1 of 4 samples, 65.6 max.)

Fish Consumption Use
1995 fish tissue analysis from one fish reveals PCB levels of 63.7 parts per billion (ppb) in one species Carp at 2-JKS023.88. The EPA human health-risk based screening value is 54 ppb. The waters are fully supporting, but threatened for the fish consumption use based on the exceedance of the EPA SV. The 11.21 mile 'Threatened' segment extends from river mile 24.21 (I04R) downstream to 13.00 (I09R) (37°46'49.59" / 079°55'40.00").

IMPAIRMENT SOURCE NPS - Urban, PS - Ind. & Mun. / NPS - Urban

Swimming Use
Urban nonpoint source runoff, primarily pump station overflows in watershed I04R, are believed the source for failure to meet the swimming use goal of the CWA. Additional bacteria monitoring will aid in making source determinations.

Aquatic Life Use
The source of the biological impairment is believed organic deposition due to elevated total phosphorus. The dissolved oxygen impairment is believed due to elevated total phosphorus concentrations causing diurnal depressions. Point source (PS) discharges and urban runoff are believed contributing to the elevated total phosphorus concentrations in the Jackson River.

The source(s) of the sediment metals nickel and zinc and organics PCB and chlorodane exceedances are unknown.

Fish Consumption Use
The exact source(s) of the PCB contamination are unknown. The Virginia Department of Health (VDH) level of concern for PCBs is 600 ppb in fish tissue.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Bath

STREAM NAME: Pheasanty Run

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAV-I14R_PTY01A00

SEGMENT SIZE: 0.43 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2000 - 2002

UPSTREAM LIMIT:

DESCRIPTION: Coursey Sps Trout Cultural Station

RIVER MILE: 0.43

LATITUDE: 38.17722 **LONGTITUDE:** -79.58167

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Cowpasture River

RIVER MILE: 0.00

LATITUDE: 38.17111 **LONGTITUDE:** -79.58139

Segment begins at the Coursey Springs Trout Cultural Station discharge and continues downstream to its confluence with Cowpasture River..

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, 1

IMPAIRMENT CAUSE: General Standard (Benthic)

A benthic survey in the Spring of 1995 indicated severely impaired waters below the Coursey Springs Fish Cultural Station discharge. As a result the 0.43 miles of the stream below the discharge were assessed as not supporting the Clean Water Act's Aquatic Life Use Support goal for the 1998 305(b) report. A TMDL is being developed for this segment and is scheduled for completion by 4/2002. The segment was not sampled during the 2002 assessment period.

IMPAIRMENT SOURCE PS - Trout Farm - Coursey Springs

The source is the fish cultural station.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: James River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I18R_JMS01A00

SEGMENT SIZE: 15.36 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence of the Jackson & Cowpasture Rivers.

RIVER MILE: 346.49

LATITUDE: 37.78417 **LONGTITUDE:** -79.77611

DOWNSTREAM LIMIT:

DESCRIPTION: Just above confluence of Craig Creek on the James at river mile 331.55.

RIVER MILE: 331.13

LATITUDE: 37.64583 **LONGTITUDE:** -79.81306

The upper limit is the confluence of the Jackson and Cowpasture Rivers at river mile 346.49 near Iron Gate, Va. (Clifton Forge Quad). The lower limit is the mouth of Craig Creek on the James River at river mile 331.55 (Eagle Rock Quad near Gala, Virginia.

Note: The 1998 segment length has been modified to coincide with the watershed boundary at Craig Creek. Slight mileage differences beyond the segment change are due to the use of the National Hydrography Dataset (NHD).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

Originally listed in 1998 the segment continues to be partially impaired based on current Rapid Bioassment Protocol II (RBP II) survey data (nine surveys). The segment brackets biological station 2-JMS345.73 (Rt. 220 Bridge near Gage). This station shows the first discernible sign of improvement in water quality from upstream Jackson River RBP II stations. The station is moderately impaired because Tubificid worms are the dominant organism.

Additional study is required to determine the exact pollutant(s) or pollution causing the impairment. However ambient data from headwater tributary stations indicate the benthic impairment may be the result of nutrient and organic enrichment / solids deposition. Total phosphorus and solids data from two upstream stations; 2-JKS000.38 (Rt. 727 Bridge near Iron Gate - VAW-I09R) sampled monthly and 2-CWP002.58 (Rt. 633 Bridge at Gage - VAV-I17R) sampled quarterly were examined. Monthly phosphorus data from 2-JKS000.38 found exceedances of the 0.20 mg/l threshold in 17 of 58 samples. These results cause the waters to be fully supporting, but threatened for the aquatic life use. The data range from <0.01 to 0.70 mg/l. Five of the 58 samples are reported below 0.10 mg/l.

In contrast a limited dataset of 14 phosphorus samples from station 2-CWP002.58 report only one exceedance (0.52 mg/l) with remaining values ranging from below <0.01 to 0.10 mg/l. Eight of the quarterly collections coincide with the same day monthly collections at 2-JKS000.38. Comparison of same day total phosphorus collections (7) show 2-CWP002.58 had no phosphorus exceedances while 2-JKS000.38 had three. Coincident solids data from both stations indicate that the majority of the solids are dissolved. 2-JKS000.38 dissolved solids are nearly 80% greater than 2-CWP002.58 based on coincident sampling. Field conductivity data for the period show approximately the same percentage difference in the two upstream stations. Additionally, limited total phosphorus data collected quarterly from 2-JMS326.30 downstream in I24R found two of 15 samples exceeding the total phosphorus threshold.

Tributaries to the segment are also monitored for phosphorus. Mill (14 samples) and Craig (16) Creeks found no total phosphorus exceedances. These data in combination suggest the presence of elevated total phosphorus concentrations and organic solids deposition may be contributing to the benthic impairment in VAW-I18R.

IMPAIRMENT SOURCE PS / Ind. & Mun. / NPS-Urban

The impairment source is believed due to nutrient and organic deposition attributable to upstream point source (PS) discharges in the Covington/Clifton Forge area as well as contributory urban nonpoint source (NPS) runoff.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt County

STREAM NAME: James River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I24R_JMS01A00

SEGMENT SIZE: 4.99 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2004 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Craig Cr. mouth on James R.

RIVER MILE: 331.13

LATITUDE: 37.64554 **LONGTITUDE:** -79.81348

DOWNSTREAM LIMIT:

DESCRIPTION: Upstream of Catawba Cr. mouth on the James R.

RIVER MILE: 326.14

LATITUDE: 37.60623 **LONGTITUDE:** -79.78490

The upper limit is the confluence of Craig Creek (Eagle Rock Quad) on the James River near Gala, Virginia. The lower limit of the segment is just above the mouth of Catawba Creek on the James River (Salisbury Quad) just west of Rt. 726 in Botetourt County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supported (1998)

IMPAIRMENT CAUSE: Total Phosphorus (1998)

This segment of the James River remains 303(d) listed due to insufficient data for de-listing the General Standard (benthic) impairment of the original 1998 303(d) segment. The 1998 List reports the segment impaired for the aquatic life use due to contravention of the General Standard where moderate (aquatic life use / partial support) was reported at 2-JMS326.30. The impairment cause in 1998 was believed due to organic deposition as a result of upstream elevated total phosphorus concentrations.

The 2002 Assessment reports improved conditions in the segment at the same site. Benthic RBPII surveys demonstrate improved conditions from spring 1999- slightly (SI) and fall 2000- no impairment (NI). Additional data are required in order to assess the segment as fully supporting the General Standard.

Two total phosphorus values exceed the threshold of 0.20 mg/l from 15 samples at 2-JKS326.30 (at Salisbury). The two exceeding values are 0.40 mg/l in July 1997 and 0.26 mg/l in August 2000. Upstream reductions in magnitude and frequency of exceedances are found at station 2-JKS000.38 (I09R) where the 2002 Assessment finds 17 of 58 total phosphorus samples exceed the threshold versus the 2000 Cycle where 29 of 60 samples exceed. Station 2-JKS000.38 maxima are also reduced in 2002 from 0.70 mg/l versus 2000 Cycle 2.10 mg/l. The reductions in magnitude and frequency each lend evidence of improving conditions and the positive response found in the RBP II surveys.

RBP II survey data report full support of the aquatic life use from spring 1999- slightly (SI) and fall 2000- no impairment (NI) despite exceedances of the 1995 NOAA effect range - median (ER-M) sediment metal

screening values (SV) for nickel and zinc. Based on these surveys the waters are assessed fully supporting even though sediment metals found are Nickel (Ni, SV= 51.6 ppm, 2 of 4 samples, 63.3 max.) and Zinc (Zn, SV=410 ppm, 1 of 4 samples, 661 max.) at station 2-JMS326.30.

IMPAIRMENT SOURCE PS / Ind. & Mun. / NPS-Urban

The source of the total phosphorus exceedance is believed to be from upstream point source discharges and nonpoint source runoff.

The source of the metals are unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: Catawba Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I25R_CAT03A00

SEGMENT SIZE: 11.89 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Downstream of Roanoke Cement intake.

RIVER MILE: 23.16

LATITUDE: 37.47000 **LONGTITUDE:** -80.00513

DOWNSTREAM LIMIT:

DESCRIPTION: Upstream of Town Br. mouth on Catawba Cr.

RIVER MILE: 11.27

LATITUDE: 37.51694 **LONGTITUDE:** -79.87914

The upstream limit of this segment is located just downstream of the Roanoke Cement Co. water intake on Catawba Creek. The segment ends just above the Town Branch mouth on Catawba Creek at river mile 11.84.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Swimming Use
Fecal coliform exceeds the 1000 n/100 ml criterion in three of 23 samples at 2-CAT014.34 (Rt. 606 Bridge, Botetourt Co.). The swimming use is only partially supporting.

Aquatic Life Use
An exceedance of the 1995 NOAA effect range-median (ER-M) sediment metal screening value (SV) for Nickel (Ni, SV=51.6 ppm, 1 of 4 samples, 61 max.) was found at station 2-CAT014.63. The segment is fully supporting, but threatened for the aquatic life use.

IMPAIRMENT SOURCE NPS

Swimming Use
Fecal coliform exceedances are believed due to nonpoint source runoff. The exact contributors are not known.

Aquatic Life Use
The source of the sediment metal exceedance is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: Looney Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I26R_LMC01A00

SEGMENT SIZE: 2.48 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Confluence of Mill Cr. and Back Cr.

RIVER MILE: 2.48

LATITUDE: 37.49806 **LONGTITUDE:** -79.72780

DOWNSTREAM LIMIT:

DESCRIPTION: Looney Cr. mouth on the James River.

RIVER MILE: 0.00

LATITUDE: 37.51806 **LONGTITUDE:** -79.70235

The segment begins at the confluence of Mill and Back Creek on Looney Creek northeast of Lithia, Virginia, on the Montvale Quad. The segment ends at the mouth of Looney Creek on the James River.

Note: Slight 1998 segment mileage adjustments are due to the use of the National Hydrography Dataset (NHD).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Fecal coliform bacteria cause only partial support of swimming use in the Looney Creek segment. Three of 23 samples exceed the fecal coliform bacteria instantaneous criterion of 1000 n/100 ml. The segment brackets station 2-LMC000.40 (Rt. 625 Bridge).

IMPAIRMENT SOURCE NPS - Agriculture/Urban

The sources are believed to be primarily agricultural nonpoint source pollution. Urban (residential) nonpoint source pollution potential exists.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Cedar Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAV-I28R_CEC01A00

SEGMENT SIZE: 11.52 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 11.52

LATITUDE: 37.62972 **LONGTITUDE:** -79.63778

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the James River confluence

RIVER MILE: 0.00

LATITUDE: 37.60750 **LONGTITUDE:** -79.54250

Segment begins at the headwaters and ends at the James River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

2-CEC000.04 - 2 fecal coliform violations out of 13 samples during the 2002 assessment period.

IMPAIRMENT SOURCE Unknown

The source is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Little Calfpasture River

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I32R_LCF01A00

SEGMENT SIZE: 0.83 - Miles

INITIAL LISTING: 1996 **TMDL Schedule** 2004 - 2008

UPSTREAM LIMIT:

DESCRIPTION: Lake Merriweather Dam

RIVER MILE: 0.83

LATITUDE: 37.96028 **LONGTITUDE:** -79.45861

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Calfpasture River

RIVER MILE: 0.00

LATITUDE: 37.94944 **LONGTITUDE:** -79.45972

Segment begins at the Lake Merriweather Dam and continues downstream to the confluence with the Calfpasture River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Aquatic Life Use - Partially Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

2-LCF000.76 had a severely impaired benthic rating and
2-LCF000.02 had a moderately impaired benthic rating during the 2002 assessment period. The exact cause of the impaired ratings is not known but is believed to be due to excessive solids.

IMPAIRMENT SOURCE Dam Maintenance

The source of the silt is from the annual maintenance activities performed on the dam.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Augusta

STREAM NAME: Castaline Spring Branch

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I32R_CSB01A00

SEGMENT SIZE: 0.8 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2000 - 2002

UPSTREAM LIMIT:

DESCRIPTION: Castaline Trout Farm

RIVER MILE: 0.80

LATITUDE: 38.04083 **LONGTITUDE:** -79.38389

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Byrd Spring

RIVER MILE: 0.00

LATITUDE: 38.04806 **LONGTITUDE:** -79.39333

Segment begins at the Castaline Spring Branch Trout Farm discharge and continues downstream to the confluence with Byrd Spring.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Aquatic Life Use - Partially Supporting, 1

IMPAIRMENT CAUSE: General Standard (Benthic)

A benthic survey in June of 1996 indicated severely impaired waters below the Castaline Trout Hatchery discharge at monitoring station CSB 0.64 and moderate impairment at CSB 0.04. As a result the 0.16 miles of the stream below the discharge were assessed as not supporting and 0.64 miles were assessed as partially supporting the Clean Water Act's Aquatic Life Use Support goal for the 1998 305(b) report. A TMDL is being developed for this segment and is scheduled for completion by 4/2002. This segment was not sampled during the 2002 assessment period.

IMPAIRMENT SOURCE PS - Trout Farm - Castaline

The source is the fish cultural station.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Saint Marys River

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I36R_SMR02A02

SEGMENT SIZE: 2.05 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 7.10

LATITUDE: 37.93139 **LONGTITUDE:** -79.04750

DOWNSTREAM LIMIT:

DESCRIPTION: 2.05 miles downstream of the headwaters

RIVER MILE: 5.05

LATITUDE: 37.92472 **LONGTITUDE:** -79.13111

The segment begins at the headwaters and continues downstream for 2.05 miles.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic)

USFS - 5095 - Had a severely impaired benthic rating during the 2002 assessment period.

IMPAIRMENT SOURCE Atmospheric Deposition

The source is believed to be atmospheric deposition.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Maury River

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I37R_MRY02A00

SEGMENT SIZE: 6.57 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Indian Gap Run

RIVER MILE: 11.50

LATITUDE: 37.72778 **LONGTITUDE:** -79.36250

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Buffalo Creek

RIVER MILE: 4.93

LATITUDE: 37.67639 **LONGTITUDE:** -79.42528

The segment begins at the confluence with Indian Gap Run and continues downstream to the confluence with Buffalo Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Attachment B

IMPAIRMENT CAUSE: General Standard (Benthic)

2-MRY005.58 - Benthic Monitoring during the 1988 assessment cycle indicated the Aquatic Life Use was fully supporting. However, EPA allowed this segemnt to be added to Attachment B of the Consent Decree. Follow up sampling was done therefore the segment must be listed on the 2002 303(d) list.

IMPAIRMENT SOURCE Attachment B

Attachment B

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Appomattox, Buckingham, Prince Edward, Cumberland, Amelia, Powhatan, Chesterfield

STREAM NAME: Appomattox River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J01R_APP03A02

SEGMENT SIZE: 80.6 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Vaughans Creek

RIVER MILE: 126.58

LATITUDE: 37.35389 **LONGTITUDE:** -78.55556

DOWNSTREAM LIMIT:

DESCRIPTION: Deep Creek Confluence

RIVER MILE: 43.80

LATITUDE: 37.31278 **LONGTITUDE:** -77.80722

Segment begins at the confluence of the Appomattox River with Vaughns Creek in Appomattox County, and extends downstream to the confluence of the Appomattox River with Deep Creek in Amelia County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Appomattox River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. The violation rates were as follows:
12/55 at the Rt. 15 bridge (2-APP118.04)
14/58 at the Rt. 620 bridge (2-APP090.12)
11/60 at the Rt. 360 bridge (2-APP050.23).

IMPAIRMENT SOURCE Agriculture

The source is believed to be agricultural nonpoint source (NPS) runoff in the watershed, however this is unverified.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Spring Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J02R_BFL01A98

SEGMENT SIZE: 5.5 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Mud Creek

RIVER MILE: 5.50

LATITUDE: 37.22000 **LONGTITUDE:** -78.57583

DOWNSTREAM LIMIT:

DESCRIPTION: Buffalo Creek

RIVER MILE: 0.00

LATITUDE: 37.24250 **LONGTITUDE:** -78.49861

Spring Creek from the confluence with Mud Creek to Buffalo Creek

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Spring Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/27samples taken at 2-SPA001.46.

IMPAIRMENT SOURCE Agriculture

The source of the fecal coliform is believed to be agriculture.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Bush River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J03R_BSR03A02

SEGMENT SIZE: 0.78 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Sandy River

RIVER MILE: 0.78

LATITUDE: 37.30000 **LONGTITUDE:** -78.32556

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River

RIVER MILE: 0.00

LATITUDE: 37.30889 **LONGTITUDE:** -78.32556

Bush River from Sandy River to Appomattox River

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Bush River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/23 samples taken at 2-BSR002.82

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Little Sandy Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J03R_LIT01A02

SEGMENT SIZE: 7.35 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 7.35

LATITUDE: 37.14944 **LONGTITUDE:** -78.29028

DOWNSTREAM LIMIT:

DESCRIPTION: Sandy River Reservoir

RIVER MILE: 0.00

LATITUDE: 37.23806 **LONGTITUDE:** -78.31667

Little Sandy Creek from headwaters to Sandy Reservoir

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Little Sandy Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/13 samples taken at 2-LIT002.40.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Sandy River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J03R_SDY02A00

SEGMENT SIZE: 1.54 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Little Sandy River

RIVER MILE: 5.85

LATITUDE: 37.23861 **LONGTITUDE:** -78.31639

DOWNSTREAM LIMIT:

DESCRIPTION: Marrowbone Creek

RIVER MILE: 4.31

LATITUDE: 37.25861 **LONGTITUDE:** -78.31750

Sandy River from Little Sandy River to Marrowbone Creek

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen

Sandy River is not supporting the aquatic life use due to violations of the dissolved oxygen (DO) standard. Low DO levels were recorded in 7/11 monitoring events at 2-SDY004.27 and 2/5 at 2SDY005.85

IMPAIRMENT SOURCE Unknown

The source of the DO standard violations is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Marrowbone Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J03R_MBN01A02

SEGMENT SIZE: 4.98 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 4.98

LATITUDE: 37.23611 **LONGTITUDE:** -78.24583

DOWNSTREAM LIMIT:

DESCRIPTION: Sandy River

RIVER MILE: 0.00

LATITUDE: 37.25861 **LONGTITUDE:** -78.31722

Marrowbone Creek from headwaters to Sandy River

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen

Marrowbone Creek is not supporting the aquatic life use due to violations of the dissolved oxygen (DO) standard. Low DO levels were recorded in 2/6 monitoring events at 2-MBN000.96.

IMPAIRMENT SOURCE Unknown

The source of the DO standard violations is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Bush River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J04R_BSR02A02

SEGMENT SIZE: 4.22 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Mountain Creek

RIVER MILE: 5.00

LATITUDE: 37.26111 **LONGTITUDE:** -78.35972

DOWNSTREAM LIMIT:

DESCRIPTION: Limit of the watershed

RIVER MILE: 0.78

LATITUDE: 37.30000 **LONGTITUDE:** -78.32556

Bush River from the confluence with Mountain Creek downstream to the limit of the watershed.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Bush River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/23 samples taken at 2-BSR002.82

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Briery Creek Lake

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J05L_BRI01L98

SEGMENT SIZE: 850 - Acres

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Briery Creek Lake

RIVER MILE:

LATITUDE: 37.20139 **LONGTITUDE:** -78.44611

DOWNSTREAM LIMIT:

DESCRIPTION:

RIVER MILE:

LATITUDE: 37.17722 **LONGTITUDE:** -78.46167

Briery Creek Lake

CLEAN WATER ACT GOAL AND USE SUPPORT:
Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen

Briery Creek Lake is not supporting the aquatic life use due to violations of the dissolved oxygen (DO) standard. Low DO levels were recorded in 2/6 monitoring events at 2-BRI010.78

IMPAIRMENT SOURCE Unknown

The source of the DO standard violations is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward

STREAM NAME: Briery Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J05R_BRI01A98

SEGMENT SIZE: 9.94 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Briery Creek Lake Dam

RIVER MILE: 9.94

LATITUDE: 37.20667 **LONGTITUDE:** -78.44361

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Bush River

RIVER MILE: 0.00

LATITUDE: 37.28167 **LONGTITUDE:** -78.35111

Briery Creek from Unnamed tributary to Briery Creek to confluence with Bush River

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Briery Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 4/16 samples taken at 2-BRI001.00

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Cumberland

STREAM NAME: Angola Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J06R_ANG02A00

SEGMENT SIZE: 2.56 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Unnamed tributary downstream of Route 664

RIVER MILE: 2.56

LATITUDE: 37.37167 **LONGTITUDE:** -78.28500

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River

RIVER MILE: 0.00

LATITUDE: 37.37611 **LONGTITUDE:** -78.24139

Angola Creek from an unnamed tributary downstream of Route 664 to the mouth at the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Angola Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 9/11samples taken at 2-ANG001.27. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 4/11 samples taken at 2-ANG001.27.

IMPAIRMENT SOURCE Unknown

The sources of fecal coliform and phosphorus are unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Cumberland

STREAM NAME: Horsepen Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J06R_HRP01A00

SEGMENT SIZE: 3.82 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 3.82

LATITUDE: 37.40333 **LONGTITUDE:** -78.32750

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at Big Guinea Creek

RIVER MILE: 0.00

LATITUDE: 37.42056 **LONGTITUDE:** -78.27583

Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Horsepen Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 5/13 samples taken at 2-HRP000.42, a former confined animal feeding operation (CAFO) special study station. Horsepen Creek is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 4/11 samples taken at 2-HRP000.42.

IMPAIRMENT SOURCE Unknown

The sources of fecal coliform and phosphorus are unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Cumberland

STREAM NAME: Angola Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J06R_ANG01A00

SEGMENT SIZE: 4.59 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 7.15

LATITUDE: 37.36861 **LONGTITUDE:** -78.35028

DOWNSTREAM LIMIT:

DESCRIPTION: Unnamed tributary downstream of Route 664

RIVER MILE: 2.56

LATITUDE: 37.37167 **LONGTITUDE:** -78.28500

Angola Creek from its headwaters to the confluence with an unnamed tributary downstream of Route 664.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

This segment of Angola Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 7/11 samples taken at 2-ANG003.35.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince Edward, Amelia

STREAM NAME: Saylers Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J06R_SYL01A98

SEGMENT SIZE: 9.08 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 9.08

LATITUDE: 37.23917 **LONGTITUDE:** -78.23944

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with the Appomattox River

RIVER MILE: 0.00

LATITUDE: 37.34278 **LONGTITUDE:** -78.26139

Saylers Creek from its headwaters to the confluence with the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Saylers Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 11/27 samples taken at 2-SYL001.26.

IMPAIRMENT SOURCE Unknown

The source of fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amelia

STREAM NAME: Flat Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J08R_FLA01A00

SEGMENT SIZE: 3.99 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Nibbs Creek Confluence

RIVER MILE: 4.10

LATITUDE: 37.40220 **LONGTITUDE:** -77.93380

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River confluence

RIVER MILE: 0.00

LATITUDE: 37.39160 **LONGTITUDE:** -77.87400

Flat Creek from Nibbs Creek to the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Flat Creek was assessed not supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 7/22 recorded at the Route 604 bridge (2-FLA001.95).

For the 2002 cycle, the segment was assessed partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 5/27.

IMPAIRMENT SOURCE PS - Municipal, NPS - Agriculture

It is suspected that the Amelia Courthouse STP, which discharges to Nibbs Creek, may have been a contributing source. A new wastewater treatment plant was completed in 1994 as a control measure, and is expected to have a positive effect on water quality in the receiving stream. It is suspected that the problems may also be caused be nonpoint source runoff in the watershed, and continued monitoring is recommended to evaluate whether water quality is improving.

The source of the metals in sediments is unknown. Continued monitoring to evaluate improvements in water quality in the segment resulting from the STP upgrade is recommended. Additional sediment monitoring is necessary to determine whether a metals in sediments problem exists.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amelia

STREAM NAME: Nibbs Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J09R_NBB01A98

SEGMENT SIZE: 5.28 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Amelia Courthouse STP

RIVER MILE: 6.45

LATITUDE: 37.36720 **LONGTITUDE:** -77.99170

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at Flat Creek

RIVER MILE: 0.00

LATITUDE: 37.40220 **LONGTITUDE:** -77.93380

Nibbs Creek from Amelia Courthouse Sewage Treatment Plant to confluence with Flat Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Nibbs Creek was assessed in 1998 as fully supporting but threatened of the swimmable use goals based on sampling at the Route 609 bridge. The segment was identified to Virginia for listing consideration during the next cycle. During the 2002 cycle, the segment is considered partially supporting of the swimming goal based on widespread fecal coliform violations

Fecal coliform 4/27 at the Route 609 bridge (2-NBB003.65);
Hog farm special study stations:
Fecal coliform 5/13 at the Route 630 bridge (2-NBB002.92 and previously called PL-43A),
Fecal coliform 7/7 at the Route 609 bridge (2-XQK000.15 and previously called PL-43B),
Fecal coliform 5/15 at the Route 636 bridge (2-NBB001.54 and previously called PL-43C).

The segment was initially assessed in 1998 as threatened for the aquatic life use goals based on sediment sampling on 03/06/1995 (beryllium 14 mg/kg and cadmium 11 mg/kg).

IMPAIRMENT SOURCE PS - Municipal

It was suspected that the Amelia Courthouse STP, which discharges to Nibbs Creek, may have been a contributing source, however a new wastewater treatment plant was completed in 1994. It is suspected that the problems may also be caused by nonpoint source runoff in the watershed.

The source of the metals in sediments is considered unknown. Additional sediment monitoring is necessary to confirm the metals in sediments, better delineate the affected segment, and identify sources, if any.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nottoway

STREAM NAME: Deep Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J11R_DPC01B00

SEGMENT SIZE: 11.19 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Cellar Creek

RIVER MILE: 12.80

LATITUDE: 37.24020 **LONGTITUDE:** -77.94070

DOWNSTREAM LIMIT:

DESCRIPTION: Beaverpond Creek

RIVER MILE: 1.70

LATITUDE: 37.30340 **LONGTITUDE:** -77.83390

Deep Creek from the confluence with Cellar Creek to the confluence of Beaverpond Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Deep Creek from Cellar Creek to the confluence with Beaverpond Creek was assessed as partially supporting of the Swimmable use support goal based on a fecal coliform standard violation rate of 4/25 recorded at 2-DPC005.20.

The segment was extended from the 1998 cycle.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform standard violations is considered unknown.

Targeted monitoring is necessary to further delineate the affected segment and to characterize the causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nottoway

STREAM NAME: Deep Creek, UT - Unnamed Tributary

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J11R_XGP01A00

SEGMENT SIZE: 2.13 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Town of Crewe STP discharge

RIVER MILE: 2.16

LATITUDE: 37.18800 **LONGTITUDE:** -78.12380

DOWNSTREAM LIMIT:

DESCRIPTION: Deep Creek confluence

RIVER MILE: 0.00

LATITUDE: 37.20160 **LONGTITUDE:** -78.09320

Segment begins at the Town of Crewe Municipal Sewage Treatment Plant discharge, and extends downstream

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic), Zinc

Quarterly biological monitoring at station 2-XGP001.80, located at the Route 619 bridge over the unnamed tributary just downstream of the STP outfall, determined that the benthic community is severely impaired as compared to the benthic community at biological monitoring station 2-XGP002.20, located just upstream of the discharge. As a result, the 2.16 miles of stream below the discharge was assessed not-supporting of the Clean Water Act's Aquatic Life Use support goal for the 1994 305(b) report.

In addition, Deep Creek, UT is listed on the 303(d) Part II list because of a compliance schedule at the STP for zinc.

IMPAIRMENT SOURCE PS - Municipal

The impairment is attributed to excessive solids deposits in the stream. The deposits are attributed to the Town of Crewe Municipal STP discharge (VA0020303). The Town of Crewe has finished construction of a 0.5 MGD oxidation ditch facility.
Continued monitoring to gauge the effects of the facility upgrade is recommended.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nottoway, Amelia

STREAM NAME: West Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J11R_WET02A00

SEGMENT SIZE: 7.22 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Tanners Branch

RIVER MILE: 7.22

LATITUDE: 37.27170 **LONGTITUDE:** -78.01040

DOWNSTREAM LIMIT:

DESCRIPTION: Deep Creek

RIVER MILE: 0.00

LATITUDE: 37.25690 **LONGTITUDE:** -77.90750

West Creek from the confluence with Tanners Branch to the confluence with Deep Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The segment was assessed as Partially Supporting the Swimmable Use support goals based on a fecal coliform violation rate of 3/20 at station 2-WET004.96.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amelia

STREAM NAME: Winticomack Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J12R_WTK02A00

SEGMENT SIZE: 3.97 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Long Branch

RIVER MILE: 4.10

LATITUDE: 37.23840 **LONGTITUDE:** -77.77170

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.26830 **LONGTITUDE:** -77.74000

Winticomack Creek from Long Branch to its mouth at the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, pH

Winticomack Creek is assessed as not supporting the aquatic life use goals based on a dissolved oxygen violation rate of 10/27and a pH violation rate of 13/27 at the Route 622 bridge (2-WTK001.50) and the results of a 1994 special study.

IMPAIRMENT SOURCE Unknown

The source of the DO and pH violations in this watershed is considered unknown. A 1994 special study verified the monitoring station violations.

Continued monitoring to increase the data set and make a confident assessment is recommended. Targeted monitoring may be necessary to further delineate the impaired segment and to characterize its causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield

STREAM NAME: Winterpock Creek and tributaries

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J12R_WPK01A00

SEGMENT SIZE: 20.36 - Miles

INITIAL LISTING: 1994 **TMDL Schedule** 2001 - 2004

UPSTREAM LIMIT:

DESCRIPTION: Winterpock Creek headwaters

RIVER MILE: 10.50

LATITUDE: 37.31210 **LONGTITUDE:** -77.76050

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River confluence

RIVER MILE: 0.00

LATITUDE: 37.29250 **LONGTITUDE:** -77.67170

Segment consists of the entire Winterpock Creek mainstem and its tributaries, excluding Surline Branch and its tributaries.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, pH

This segment was initially included on the 303(d) list in 1994 based on excessive DO and pH standard violations.

Winterpock Creek was assessed not supporting of the Aquatic Life use support goal based on a DO standard violation rate of 16/48 and a pH standard violation rate of 17/48 recorded at the Route 602 bridge (2-WPK003.23). The violations were confirmed in a DEQ special study performed in 1994. The segment was extended in the year 2002 cycle to include tributaries because of a special study performed by the Richmond Regional PDC in 1997-1998.

IMPAIRMENT SOURCE Unknown

The impairment of this stream segment is attributed to organic enrichment at the monitoring station. A pool at the monitoring station is always backwatered without velocity. However, this backwater is not from Lake Chesdin, as there is a 30-40 foot elevation difference between this location and the Lake Chesdin dam spillway. The source of organic enrichment is unknown, but could be forest decay product and/or construction runoff upstream. Winterpock Creek is not considered representative of other tributaries of Lake Chesdin.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources. A special study was initiated in 1996 to delineate and characterize the impairment in this watershed.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince George, Chesterfield, Hopewell, City of

STREAM NAME: Appomattox River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J15E_APP01A98

SEGMENT SIZE: 2.68 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Fall line at Route 1/301 bridge

RIVER MILE: 10.40

LATITUDE: 37.23660 **LONGTITUDE:** -77.40420

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.32080 **LONGTITUDE:** -77.27520

Entire estuarine Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Entire estuarine Appomattox River was evaluated as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll_a exceedances:
4/18 at 2-APP001.53
3/3 at MA97-0677 (same location as 2-APP001.53)
2/2 at MA97-0071

The segment was assessed partially supporting of the Swimmable use support goal based on a fecal coliform violation rate of 7/59 at 2-APP001.53.

In addition, the segment is listed as partially supporting the fish consumption use because of PCBs (refer to fact sheet VAP-G01E-03.)

IMPAIRMENT SOURCE NPS - Unknown

The nutrient enrichment in this segment is attributed to unknown nonpoint sources. The source of the fecal coliform standard violations is considered unknown.

Targeted monitoring is necessary to further delineate the affected segment and to characterize the causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince George, Chesterfield, Hopewell, City of

STREAM NAME: Appomattox River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J15R_APP01A98

SEGMENT SIZE: 7.44 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Lake Chesdin dam

RIVER MILE: 17.80

LATITUDE: 37.22010 **LONGTITUDE:** -77.52520

DOWNSTREAM LIMIT:

DESCRIPTION: Fall line at Route 1/301 bridge

RIVER MILE: 10.40

LATITUDE: 37.23660 **LONGTITUDE:** -77.40420

Appomattox River from the Lake Chesdin dam downstream to the fall line at the Route 1/301 bridge.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

The segment was assessed partially supporting of the Swimmable use support goal based on a fecal coliform violation rate of 14/58 recorded at 2-APP012.79.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform standard violations is considered unknown.

Targeted monitoring is necessary to further delineate the affected segment and to characterize the causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield

STREAM NAME: Swift Creek Reservoir

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J16L_APP01A98

SEGMENT SIZE: 1800 - Acres

INITIAL LISTING: 2002 **TMDL Schedule** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Extent of backwater

RIVER MILE: 34.49

LATITUDE: 37.44540 **LONGTITUDE:** -77.69390

DOWNSTREAM LIMIT:

DESCRIPTION: Dam

RIVER MILE: 31.13

LATITUDE: 37.41790 **LONGTITUDE:** -77.64740

Swift Creek Reservoir

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen

Low DO in deeper bottom waters:
DO 2/6 at 2-SFT031.28
DO 1/3 at 2-SFT033.71

IMPAIRMENT SOURCE Stratification

The dissolved oxygen violations are in the deeper areas of the lake and are believed to be caused by stratification.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield

STREAM NAME: Swift Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J16R_SFT01A00

SEGMENT SIZE: 1.61 - Miles

INITIAL LISTING: 1998 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Turkey Creek

RIVER MILE: 36.20

LATITUDE: 37.46430 **LONGTITUDE:** -77.71480

DOWNSTREAM LIMIT:

DESCRIPTION: Swift Creek Reservoir

RIVER MILE: 34.50

LATITUDE: 37.44540 **LONGTITUDE:** -77.69390

Swift Creek from Turkey Creek downstream to the normal pool of Swift Creek Reservoir.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Swift Creek was initially listed in 1998 as partially supporting the Aquatic Life Use goal because of pH and dissolved oxygen violations. The segment was later listed of EPA's list of "Waters Identified to Virginia for Listing Consideration During Development of the Next List"; dissolved oxygen was listed as the parameter of concern. During the 2002 cycle, the segment continues to be assessed partially supporting of the aquatic life use goal based on a pH violation rate of 6/25 at the Route 657 bridge (2-SFT035.26).

In 1998 the segment was listed as fully supporting but threatened of the Swimmable Use goal. During the 2002 cycle, the segment has been downgraded to partially supporting based on a fecal coliform violation rate of 3/25 at the Route 657 bridge (2-SFT035.26).

IMPAIRMENT SOURCE Unknown

The pH violations recorded in this segment are attributed to upstream swamps and low flow conditions. Reclassification of the segment to wetlands is recommended. The source of the fecal coliform violations is considered unknown.

Continued monitoring is recommended to increase the data set and make a confident assessment. Targeted monitoring may be necessary to further delineate the extent of impairment and to characterize the causes and sources.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield

STREAM NAME: Swift Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J17R_SFT01B98

SEGMENT SIZE: 7.09 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2001 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Swift Creek Lake dam

RIVER MILE: 21.00

LATITUDE: 37.38440 **LONGTITUDE:** -77.54170

DOWNSTREAM LIMIT:

DESCRIPTION: Licking Creek

RIVER MILE: 14.4

LATITUDE: 37.32630 **LONGTITUDE:** -77.51000

Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Partially Supporting, Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Fecal Coliform

Swift Creek was assessed partially supporting of the Aquatic Life and Swimmable use support goals based on water quality monitoring performed at the Route 655 bridge (2-SFT019.15). The DO standard violation rate was 4/27, and the fecal coliform violation rate was 4/27.

IMPAIRMENT SOURCE Unknown

The source of the DO and fecal coliform violations is unknown.

2002 PART 1A IMPAIRED WATERS FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield

STREAM NAME: Swift Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J17R_SFT01C98

SEGMENT SIZE: 4 - Miles

INITIAL LISTING: 2002 **TMDL Schedule** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Lakeview Reservoir Dam

RIVER MILE: 5.90

LATITUDE: 37.27140 **LONGTITUDE:** -77.41900

DOWNSTREAM LIMIT:

DESCRIPTION: Timsbury Creek

RIVER MILE: 1.9

LATITUDE: 37.28670 **LONGTITUDE:** -77.39110

Swift Creek from the Lakeview Reservoir Dam downstream to the confluence with Timsbury Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:
Swimmable Use - Partially Supporting

IMPAIRMENT CAUSE: Fecal Coliform

Swift Creek was assessed not supporting of the Swimmable use support goal based on water quality monitoring performed at monitoring station 2-SFT004.92. The fecal coliform standard violation rate was 5/26.

IMPAIRMENT SOURCE Unknown

The source of the fecal coliform standard violations is considered unknown.